The Magazine For Hewlett-Packard Enterprise Computing

HP Professional

SEPTEMBER 1997

HP-UX

◆

Windows NT

◆

MPE/iX

A Cardinal Publication

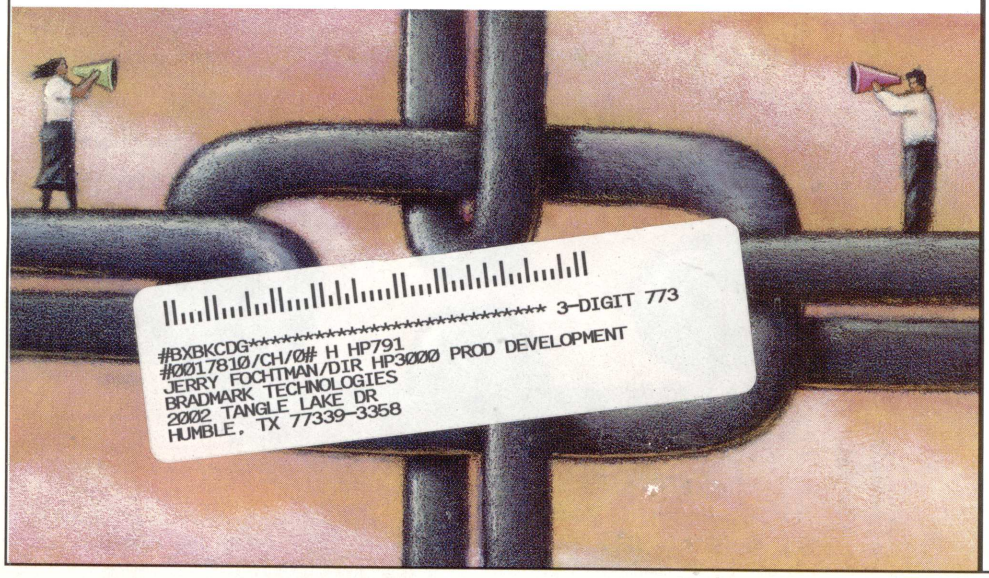
INTERNET/EDI

Forging The Ties That Bind

The Internet is more than a storefront for the "shop 'til you drop" crowd. Internet EDI interoperability provides new opportunities for companies to link up with suppliers and business partners as well as customers. **PAGE 19**

Chain Reactions

Guess what? UNIX and Windows NT vendors are both shouting for your attention in the emerging electronic commerce market. If your business is going to stay competitive, it's necessary to shop around. **PAGE 24**



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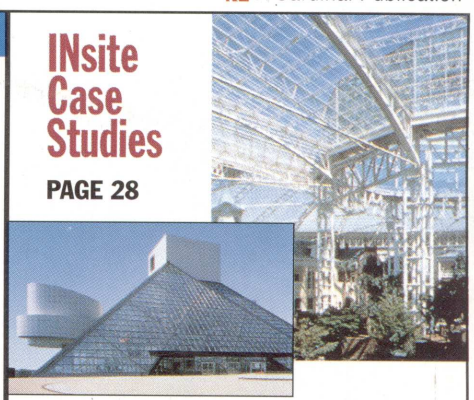

A Little Bit Country, A Little Bit Rock & Roll

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- Memco Software's SeOS
- Prism Solutions' Web Access
- WRQ's Reflection for HP

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September 1997

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By James R. Dukart and Lane F. Cooper

Business-to-consumer Internet shopping is getting all the high profile press. But behind the scenes where businesses are gathered, EDI on the Internet delivers the goods among manufacturers, suppliers and wholesalers. And now, Internet EDI is bringing a new set of interoperability opportunities and threats.

Windows Shopping 24

By Pushpendra Mohta

While growing numbers of businesses and Web developers are showing a preference for Windows NT for Web site development, enhancement and updates, they still want the security of having their content delivered from UNIX-based systems.

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LETTERS

BTW, I WAS ROTFLOL

I *had* to write to you to comment on [Charlie Simpson's] February 1997 editorial. I am a Black woman who teaches English Composition, runs a college admissions operation and majored in Linguistics as an undergraduate. Ebonics, therefore, is a hot topic for many of my varied colleagues.

I am also a closet dweeb, however, and my friends and I slip up constantly when discussing anything to do with computers with our co-workers; we may as well be speaking another language! I was ROTFLOL at your article and ran to my computer (yes, I was actually reading a hard copy of the editorial) hoping it would still be online so I could easily send it to my friends. Thank you for a much needed laugh.

S. Loretta Chisholm Daniel
Director of Admissions & Recruitment
University College — Rutgers University.

AREN'T YOU SPECIAL

I just read [Charlie Simpson's May] editorial on the *HP Professional* Web site, and I have only one word to say — Amen. I travel about 50K miles a year in planes. And, I see much of what you wrote about. Many times after turning off my PC, you watch others furiously pounding away — as if the flight attendant's message was "Please turn off all electronic devices, except for Mr. Smith in seat 7C, you are doing *important* work."

The problem: the people who need to read what you wrote, won't. Why? They are too busy being "productive."

Robert Gignac
Systems Engineer, Inference Corp.

CERTIFIABLE SUGGESTION

I read [Ryan Maley's] article in the June *HP Professional* about certification, and was a bit dismayed to see it centered on Microsoft. Surely there are other certification programs as well? A lot of us, especially those working on HP systems, don't use Microsoft products much. Our shop here uses primarily UNIX (HP-UX, SCO UNIX) and Java.

I was hoping for a much more general article, talking about certification for a wide range of products (if there are any) — including various UNIX flavors, Novell, Apple, Sun, Oracle, etc.

Steven Haworth
Software Quality Assurance Specialist
Information Data Management Inc.

At this time, finding people well-versed in the ways and means of Microsoft Windows is an immediate problem for many of our readers. However, we certainly do recognize the increased need for all kinds of trained professionals in today's multiplatform environment. So, you can look forward to more articles regarding training and certification beyond Windows NT in future issues of HP Professional.

— George A. Thompson
Editor-in-Chief

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HP PROFESSIONAL ISSN 0896-145X is published monthly by Cardinal Business Media Inc., 1300 Virginia Dr. Ste. 400, Fort Washington, PA 19034. Subscriptions are complimentary for qualified U.S. and Canadian sites. For reprints, contact Reprint Management Services, 505 E. Airport Rd., Lancaster, PA 17601; (717) 560-2001, FAX (717) 560-2063. Periodicals postage paid at Fort Washington, PA 19034, and additional mailing offices. **US** POSTMASTER: Send all correspondence and address changes to HP PROFESSIONAL, P.O. Box 3053, Northbrook, IL 60065.

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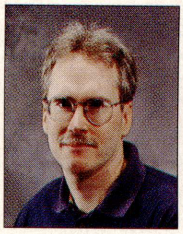


George A. Thompson
thompsonga@cardinal.com

Hello. Hello. After four years under the tutelage of Charlie Simpson, I'm ready to begin my watch as the Editor-in-Chief of *HP Professional*. Personally, after working so closely with Charlie, it's not that tremendous a change. However, Charlie observed a significant industry change in his first editorial: "it's now up to us to learn how to work with the technology and eventually exploit IT. After all, we've demanded it."

Several years later, our situation hasn't evolved much. Many corporate chief executives and IS managers are scratching their heads in wonderment asking, why has so much computer technology, bought at such a high tech premium, not been capable of producing the desired business result? Where are the cost efficiencies and business advantages?

GROWING UP IS HARD TO DO

As an industry, we're only in the late adolescent stage — concerned more with the size and manufacturer of our laptops and foisting a selfish "my knowledge is power" attitude on others as an informed, reasonable opinion. We are still at the bottom of the learning curve when it comes to exploiting IT. And like adolescents, it seems we've bitten off more bytes than we can chew.

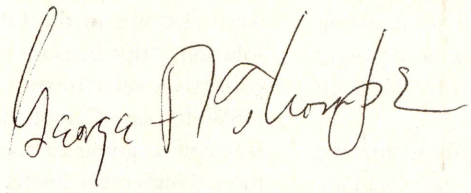
Five years ago, MPE/iX was the linchpin of HP's computing strategy. HP-UX was just cutting its teeth. Now, Windows NT is everyone's best friend. From proprietary to RISC and from MPE/iX to UNIX to Windows NT, HP has tackled some difficult changes and transitions. And they continue to do so.

HP's new Extended Enterprise strategy encompasses all of its operating systems as well as NT. I hear you screaming, "HP has sold out to the Redmond ruffian." Well, look around your organization. Please, be sure to let me know if you don't see Windows 95 or Windows NT somewhere. No matter how you look at it, HP's strategy makes sense; it includes some of the best UNIX enterprise systems combined with its Intel-based PC NetServers, which are second only to Compaq. And despite reports to the contrary, the HP 3000 is alive and well and living in Cupertino. And what if you don't subscribe to the HP Way? Then HP will still wrap its professional service arms around you. HP has adapted. Have you?

That's not to say HP is finished. There's the challenge of consummating its Merced CPU alliance with Intel (IA-64 for Intel fans), which to-date remains shrouded in mystery. HP's also trying to merge a version of HP-UX 11.0 with SCO's UnixWare and OpenServer software. With over 4,200 interfaces already included in the spec, that's a Herculean labor.

Besides HP's internal evolution, there are external threats. Compaq constantly shows up on HP's radar screen. Sun still has the largest Internet presence. IBM, the sleeping giant, is now wide awake. But perhaps the new Apple-Microsoft relationship is the best example of an industry getting over itself. A signal that it's time to grow up and get on with exploiting IT.

Although it's only 11 years old, *HP Professional* has become the leading independent information supplier for IT professionals in the HP-UX and Windows NT market. So, count on us to continue to adapt as well. Let's get on with IT.



INDUSTRY WATCH

AT PRESS

A Strong Q3 For HP

PC Workstations With Windows NT Interest Growing

HP reported orders for the third quarter of fiscal year 1997, which ended July 31, were $10.4 billion, a 19 percent increase over last year's third quarter. Orders in the United States grew 25 percent compared to a year ago and totaled $4.9 billion. Orders from outside the United States increased 15 percent and were $5.5 billion.

Net revenue for the quarter was $10.5 billion, compared with $9.1 billion in the third quarter last year. Net revenue in the United States was $4.8 billion, an increase of 15 percent compared with a year ago, while revenue from outside the United States also rose 15 percent to $5.7 billion. Net earnings for the quarter were $617 million, or 58 cents per share. This compares with earnings in the same quarter last year of $425 million, or 40 cents per share.

HP NetServer PCs posted excellent order growth, as did the HP NetServer LH midrange products. While orders for HP 9000 workstations declined, there was strong demand for PC workstations based on Windows NT. Driven by orders from the telecom and financial services industries as well as demand for products related to Year 2000 conversions, HP 9000/HP-UX servers achieved good overall growth.

HP OmniBook mobile computers posted sharp order growth, driven by recent product introductions. Professional services, such as consulting and education, achieved an excellent increase, driven in part by strong demand for Internet/intranet consulting. Orders for hardware and software support grew very well, as did demand for financing services.

ALL THE WORLD'S A STAGING GROUND FOR HP & USWEB

USWeb (Santa Clara, Calif.) and HP have launched a collaborative marketing and technical support program to offer medium and large business customers a complete set of Internet-based business solutions. The first joint initiative involves the Pandesic Company, an electronic commerce joint venture between Intel Corp. (Santa Clara, Calif.) and SAP AG (Walldorf, Germany). Pandesic is a turnkey electronic business solution that includes pre-packaged business process software, Intel-based hardware, installation and ongoing support. USWeb is endorsing HP NetServer systems as a strategic Internet/intranet platform for its Web consulting services.

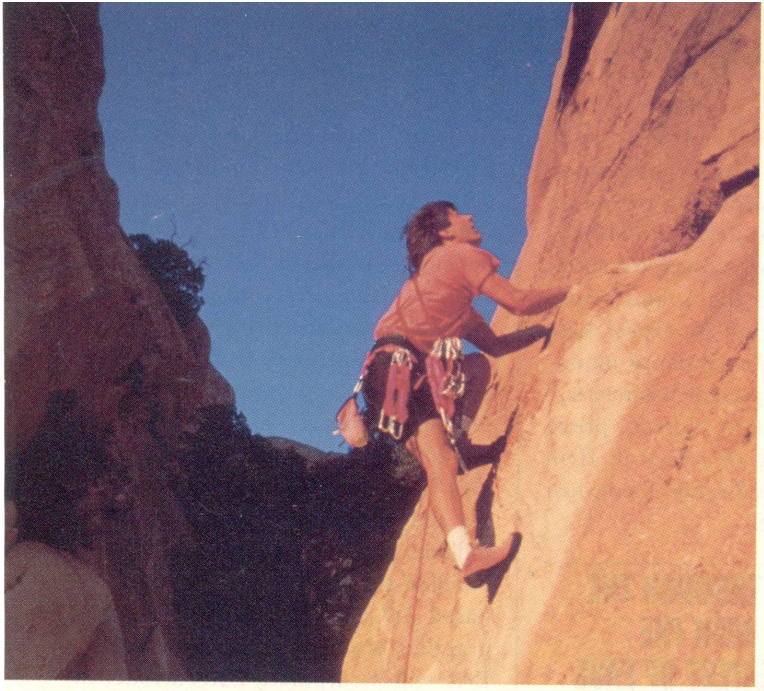
As the first staging ground for the HP and USWeb alliance, the Pandesic Internet commerce solution is expected to be available this month. This is an e-business (to-business) as opposed to e-commerce solution (business-to-consumer)," stresses Duncan Campbell, worldwide marketing manager for HP's Network Server Division, in an exclusive *HP Professional* interview. "This is definitely a multibillion [dollar] market opportunity, clearly a growth area for all partners." Besides supplying its NetServer hardware, HP ensured a high performance and integrated solution: "Two key value propositions for Pandesic," says Campbell.

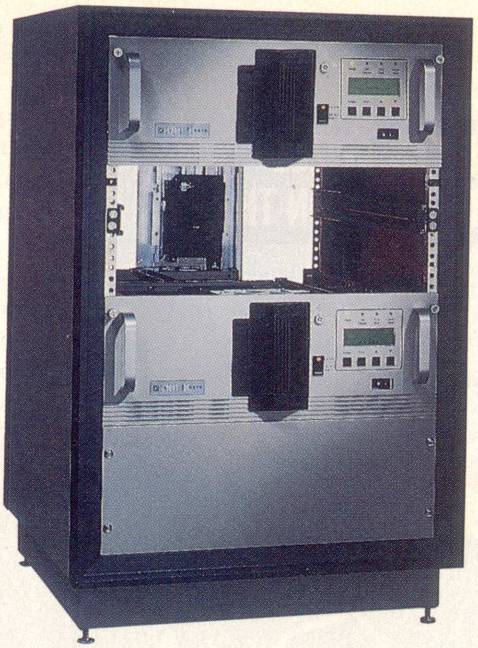
Compaq's ProLiant server series also is a preferred hardware platform in the USWeb solution. "But because of our proactive relationship with USWeb," says Campbell, "we feel you're going to see a lot more NetServers [being sold] than from those guys down in Texas." For Campbell, it's a numbers game: "Right now, the HP NetServer has the highest TPC-C performance numbers and the lowest dollars per TPC-C."

According to Sheldon Laube, USWeb's chief technology officer, USWeb selected HP as its preferred platform for the Pandesic solution based on HP's leading position in the SAP R/3 and Internet market and on its experience in delivering mission-critical applications to the enterprise. "We believe HP has taken a leadership role in developing hardware and software solutions for the Internet. HP has achieved this by reflecting a strong organizational commitment toward the Internet, through its acquisition of VeriFone and by leveraging superior technology. HP NetServer systems set the standard for manageability, availability and performance, making them an ideal choice to host high-traffic corporate Web sites and to process electronic commerce solutions," says Laube.

HP TO XEROX: COPY THIS

In late July, HP entered the digital personal copier market by announcing the immediate availability of the HP Color Copier 100 ($699) and 200 ($999) series. HP believes that with sales for digital color copiers, now only a small





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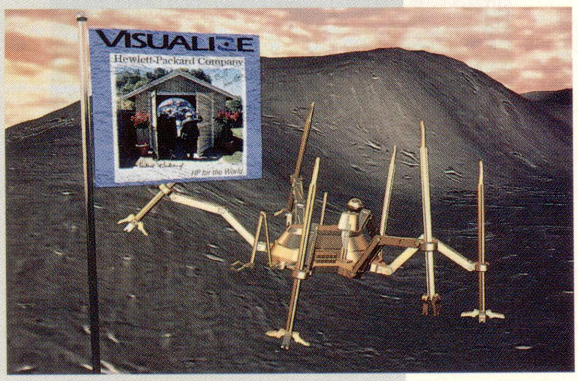
CIRCLE 122 ON READER CARD

HP VISUALIZES GRAPHICS ON THE PC

HP announced a new version of its HP Visualize graphics subsystem for its PC Workstations. Expected to be available this fall and cost less than $20,000, HP's PC Workstations with Visualize graphics let design engineers perform complex 3D modeling tasks in real time. HP Visualize technology is based on a highly distributed graphics architecture that features geometry acceleration based on PA-RISC floating-point technology.



Visualize delivers 3D modeling on UNIX and Windows NT.

With a Viewperf CDRS-03 score of more than 100, the Pentium II processor-based HP PC Workstations can perform tasks previously requiring high-end UNIX system workstations such as SGI's Onyx2 Reality DS R10000, which costs $125,120 or six times more than the expected cost of HP's new PC Workstations. The HP PC Workstation's score also doubles the graphics performance of Sun's high-end Ultra-2 2300 workstation with Creator3D graphics — at approximately half the price — and it triples the graphics performance of leading Windows NT-based personal workstations.

fraction of the $23 billion U.S. hard-copy market, there is an opportunity to capture marketshare. The prospects look good so far. According to HP figures, its new color copiers are about the same price as black and white copiers. "At that price, we expect these new copiers to replace personal monochrome copiers in small businesses," according to Richard Norton, president of research firm DocuTrends (Saratoga, Calif.).

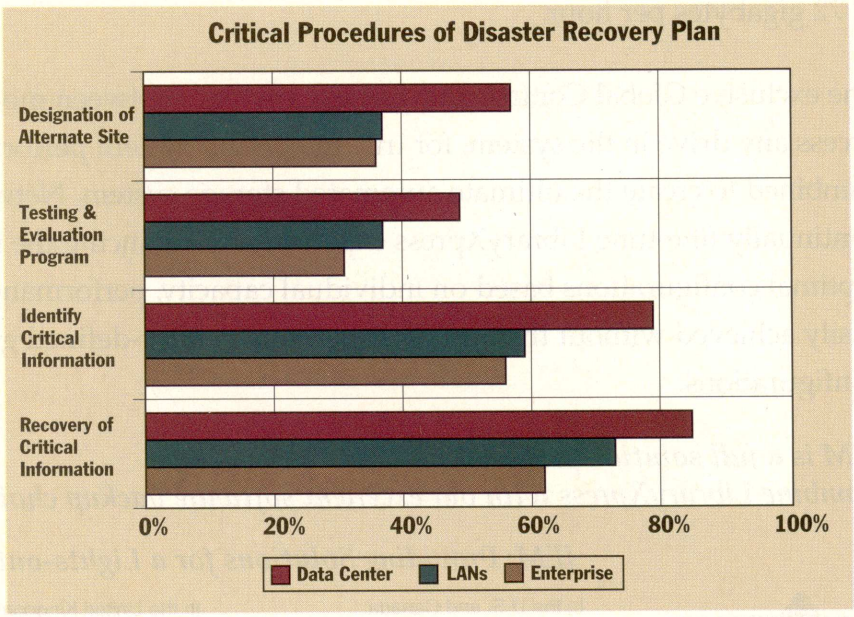
FLY THROUGH THE AIR WITH THE GREATEST OF EASE

HP announced that Engineering Animation Inc.'s (EAI; Ames, Iowa) 3D CAD visualization software, VisFly, is the first commercially available application to be developed with HP's DirectModel toolkit. The DirectModel toolkit, announced in May, boosts large-model rendering performance by up to 100 times over current levels. DirectModel was developed jointly by HP and EAI.

EAI's role in the development of DirectModel is part of its Million Part Initiative, a goal to develop software products that can manage large amounts of CAD and product data. Under the initiative, EAI's goal is to develop application architecture, distributed data access and collaborative viewing capabilities that enable companies to visualize more than one million distinct parts at a given time. VisFly enables designers to "fly through" complicated scenes and around complex CAD models in real time, navigating and manipulating models of up to millions of polygons, and is now being bundled at no charge with all HP-UX-based 3D accelerated HP Visualize graphics workstations. Additionally, EAI will incorporate DirectModel in its VisMockUp visualization and digital prototyping software.

HP'S IRREVOCABLE TRUST WITH TRUST BANK

HP announced it will manage information technology operations for Trust Bank (Tasmania, Australia) in a five-year, $16.5 million outsourcing and technology finance agreement. Trust Bank, a regional banking operation with over 50 sites in Tasmania, Victoria, Queensland and New South



The on-going high degree of work area vulnerability is a result of organizations continuing to ignore some of the most critcal elements of disaster recovery planning. This is fundamentally unchanged since 1995 for both data centers and LANs.

Source: Comdisco's Vulnerability Index 1997

Wales, is structured around four strategic banking futures: the bank network, electronic banking, personal banking and commercial banking. The bank manages over $1.8 billion in assets. New computer equipment, including HP K-class servers, Intel-based NetServer systems and HP Vectra PCs, will be acquired through ComputerLand Tasmania and leased through HP Technology Finance.

All products and outsourcing services will be bundled under a flat monthly fee. HP offers a technology refresh program on all hardware, which will help Trust Bank manage its growing technology requirements and offset technology obsolescence. HP will maintain daily computer operations at the bank's headquarters and branches, while Trust Bank's IT staff will concentrate on new business applications such as video banking and store-valued cards. In addition, HP will be responsible for the design of a new network infrastructure and implementation of a new financial system based on a retail banking application from Financial Services Network, an Oracle database and a combination of Windows NT and UNIX system servers.

MPE/IX IS FIXED FOR THE YEAR 2000

Announced at HP World: MPE/iX 5.5 Express 5 will include all Year 2000 fixes to the operating system.

COMPAQ ADDS HP FIBRE TO ITS OEM DIET

In August, Compaq Computer Corp. (Houston, Texas) selected HP's TACHYON Fibre Channel controller IC for their next generation of storage solutions. HP's TACHYON controller IC, first released for development in early 1995, features a complete hardware-based implementation optimized to take advantage of the performance advantages of Fibre Channel technology.

The TACHYON IC supports numerous Fibre Channel features including: three data rates — 1062.5, 531 and 266MBd links; three topologies — Arbitrated Loop (FC-AL), Fabric and point-to-point; all classes of service — Class 1, 2, 3 and Intermix; and support for existing I/O protocols, including SCSI and IP. In customer implementations, the TACHYON IC architecture has delivered sustained throughputs of 1Gbps and an I/O rate in excess of 10,500 I/Os per second.

HP & AT&T IN A ONE FOR ALL

In July, HP and AT&T formed an alliance to deliver integrated, secure and cost-effective solutions for taking your business to the Web. This alliance provides companies with three solution options:

LETTERS

continued from page 5

20/20 VISION?

[In response] to your questionnaire in the back of the June 1997 *HP Professional*:

I started with HP in the Break/Fix WCSO department (Customer Support) fixing the HP 9000 series 700/800 computers. I did that for three years, and now, I am a sysadmin for an all HP shop whose parent company has predominately been an HP shop and is now going to Sun. When I was younger (I am 26), I used to think that PCs and Wintel would conquer the world. Now, I can't believe how far NT still has to come to be an enterprise OS. And yet, everywhere around me it is NT this and NT that.

When I first took this job, a lateral manager was ordering hardware for our intranet server. I asked "would you like for me to get you a quote on a UNIX box? a Sun? or even an HP?" His reply was "no," that all the articles he has read [indicated that] NT was the best choice. And I said, what have you been reading? NT is easy to administer and easier to setup, etc. So I installed the free version of Netscape FastTrack and created an intranet server in one day. That was January 1, 1997. The NT Server is still not available to the general public. [But,] I am rambling.

Microsoft knows how to market — it is that simple. And Sun know how to market and get their products in the door. HP expects that its reputation will be enough to keep it in the forefront. HP PA-RISC is one hell of a processor. I am seeing it compete with Sun workstations, processor-to-processor, and beating the faster clock speed SPARCs and even single-CPU [machines] beating dual-processing SPARCs. [However,] more companies freely write software for Solaris and NT OS. Well gosh, look at how well they can scale to handle the enterprise.

HP needs to get its butt in gear. I am the only proponent for UNIX here in company of 5,000 employees, using Windows 95 and NT. Maybe we need to set technology forums [and to] invite CIO, CEO and managers of all walks of life and show them what UNIX can do. On July 4th, those were not NT workstations running XV to display the first images back from Mars. They were Sun, SGI or HP UNIX workstations.

As far as HP embracing NT, go for it. But only as long as they realize that Sun will continue to eat up the enterprise data center from HP. Customer really no longer seem to care that the faster, more reliable HP UNIX server is better for them. All they know is that if they buy enough Sun Ultra Enterprise servers, Sun will discount workstation prices up to 100% to get in the door. Our backend is an HP 9000 E45, a D360, a K200 and a four-way I70 with 300GB of DASD running Oracle. And at this moment, NT is not up to the challenge.

Matthew Morris
UNIX Systems Analyst
The L.M. Berry Company

Off-Premise Solutions
Provide for all Web content and transaction processing to be hosted on AT&T's network using: Easy World Wide Web (EW3), which includes all the technical Web site infrastructure and management needed to host Web applications; and SecureBuy, which includes a catalog development tool, the backoffice infrastructure required to process credit card transactions online, high-speed links to two credit card processing services, management reports to measure a site's success, a full complement of commerce-driving programs, and now extends to self-hosting. HP will provide its Pentium-based HP Vectra 500 PC series for front-end Web publishing and communication to the off-premise network.

Distributed Solutions
Allow for Web content to be managed on-premise for control of at least part of the overall Web activity. Rather than outsource it, you can manage the critical content and operations that enable consumers and other businesses to shop and purchase goods. HP Domain UNIX System or HP Domain NT servers are integrated with software from AT&T and leading e-commerce software vendors. AT&T provides the EasyCommerce family of services, including EW3 and SecureBuy. Additionally leading e-commerce software vendors provide integrated electronic catalog and transaction software.

On-Premise Solutions
Use HP's e-commerce partners, while AT&T provides your company with reliable Internet access. HP and its partners have solutions that can meet needs ranging from outsourcing models to merchants hosting their own solutions to retailers implementing complex solutions. HP e-commerce partners include: Actra, BroadVision, Connect, iCat, InterShop, Open Market, Mercantec, Microsoft, Oracle and Saqqara.

Additionally, HP has technologies that are being integrated with merchant applications. For example, HP's VirtualVault Internet Security Gateway offers military grade security to applications that have a Web interface. Or, using Customer Contact Manager middleware, Web channels can be integrated with call center support from other methods such as e-mail, voice and fax.

E-BUSINESS AS USUAL WITH IBM AS/400E SERIES

IBM introduced a new family of AS/400 servers (available August 29) backed by over 2,700 new Web applications designed to help small- and medium-sized companies and departments of large enterprises take advantage of business opportunities on the Internet. According to Bill Zeitler, general manager of IBM's AS/400 Division, 80 percent of the AS/400e series business will come from existing AS/400 customers. "These are customers around the world who see the need to move their business to e-business," says Zeitler. The rest will come from "competitive switchers." In other words, "companies that are moving from HP 3000s, VAXs, Bull — those that are not at the latest level of those platforms," explains Zeitler.

These servers are available in one-, two-, four-, eight- and 12-way microprocessors working in parallel, providing up to 4.6 times the processing capabilities of previous AS/400s. Prices start at $7,995 for one to two users, and go up to $1 million for 7,000 users. Future enhancements to the AS/400e (scheduled to be available in beta in Q4 and for general release in February 1998) include: native Java; native implementation of Lotus Domino; Windows NT on the Integrated PC Server, enabling customers to run personal productivity applications without a separate NT server; and software maintenance and support offering, which will include entitlement to IBM AS/400 software program updates and voice defect and usage support.

Additionally, IBM has packaged OS/400 Version 4 Release 1 (V4R1) with all new AS/400e servers. OS/400 V4R1 is based on 64-bit RISC technology with a new single-chip implementation of the PowerPC AS A35 microprocessor. Enhancements include Internet User and Validation List access control as well as System User access control.

With this announcement, IBM also is expanding customer care support with a suite of Web-enabled service and support offerings on the AS/400 "Intelligent" Web site. AS/400expert online offerings will include a "Welcome Center" for news, tips and techniques; a "Technical Studio" to provide how-to information for IT professionals; online remote diagnostics capabilities for system performance and tuning; and a lab service and support team room to provide faster and more accurate problem resolution.

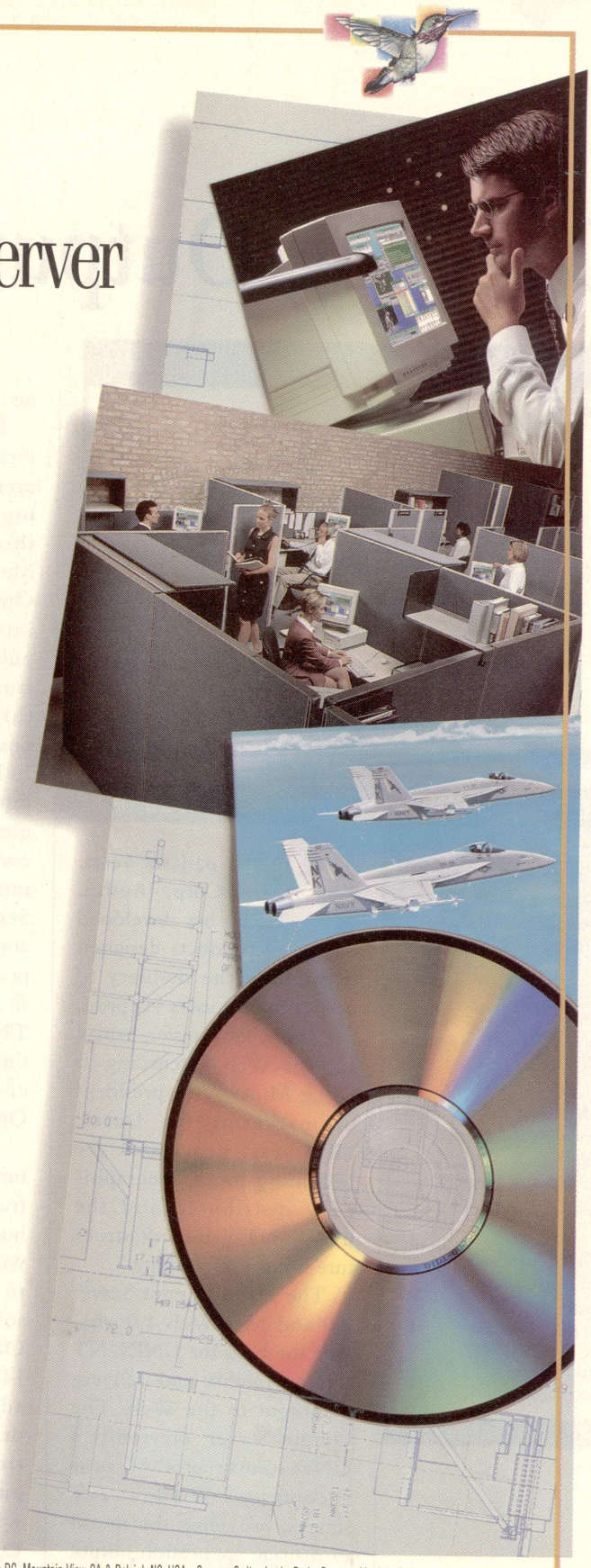
THE DEEP DISH ON THE HP 3000

In August, at HP World in Chicago, Ill., HP announced the following enhancements to its HP 3000 platform:

- In a partnership with M.B. Foster (Chesterville, Ontario), HP delivered a 32-bit ODBClink/SE, which enables Windows NT- and Windows 95-based applications to access IMAGE/SQL and ALLBASE/SQL on the HP 3000.
- The SharePlex/iX-NetBase cluster offers a cost-effective horizontal growth solution, while allowing network users to share files, databases and programs regardless of location.
- For HP 3000 9x9KS customers, HP added 28 new I/O connectivity slots for a maximum of 36 slots.
- Two new high-speed networking solutions — the 100BaseT and 100VG AnyLAN network links.
- DDS-3 Tape Drive Autoloader available on the HP 3000.
- Java 1.1.2 for the HP 3000, which includes the Just-In-Time compiler.

Exceed 5.1

Ultimate PC X Server



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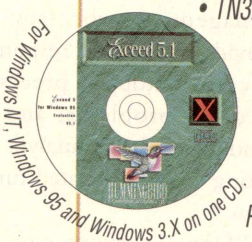

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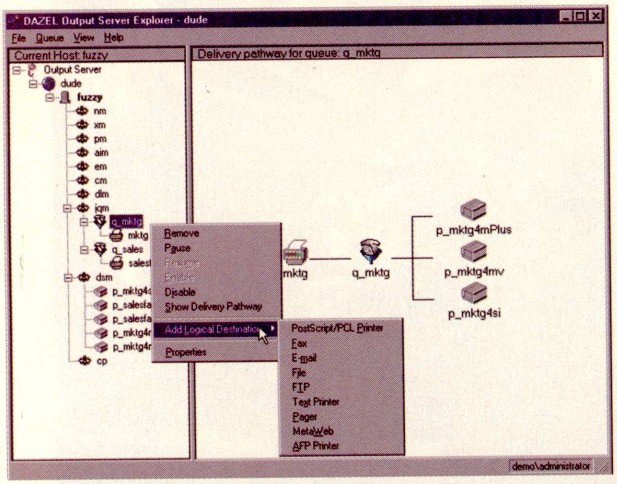
CIRCLE 156 ON READER CARD

Dazeling Output Management



OUTPUT SERVER 3.0 AND METAWEB 1.0

➤ Output Server can be managed through HP OpenView, CA-Unicenter TNG and Tivoli/Plus

➤ Supports Windows NT, HP-UX 10.10 and 10.20, SunOS, Sun Solaris and IBM AIX

➤ MetaWeb is $5,000 per server and $100 per user; Output Server starts at $60,000 with a configuration of 150 users

Dazel Corp.
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info@dazel.com
www.dazel.com

CIRCLE 353 ON READER CARD

For the past six years, Dazel Corp. (Austin, Texas) has developed a suite of products designed to simplify the delivery of output to end users via print, fax, pager, file transfer, e-mail and the Web. According to Doug Miller, vice president of marketing for Dazel, "Business processes are becoming more geographically distributed and the UNIX-NT print infrastructure is just not working."

The Dazel Output Server 3.0 and MetaWeb 1.0 provide the basis for UNIX/NT interoperability and delivery of output to the Web. The Output Server, previously a UNIX-centric product, now encompasses Windows NT servers, providing the means to manage application output seamlessly across a heterogeneous server environment.

Dazel Output Server 3.0 includes a Destination Manager architecture for managing all output devices through a single process. MetaWeb 1.0 augments the Output Server by adding an intranet/Internet/extranet publish and subscribe solution that delivers output throughout the extended business enterprise.

Managing the Dazel Output Server can be accomplished using the product's own interface in a standalone mode, using an Output Server console or through any number of popular enterprise management platforms, including CA-Unicenter TNG and Tivoli/Plus. To this list, Dazel added another enterprise manager — HP OpenView.

HPOpenView IT/Operations (IT/O) is an enterprise framework that integrates hundreds of systems and network management offerings to create a total enterprise solution. Dazel integrated Output Server 3.0 with IT/O, enabling system administrators to monitor, manage and control application output across diverse enterprise platforms from within the familiar HP OpenView interface.

According to Miller, IT/O provides a "common network applications services interface that enables Dazel Output Server users to manage output resources in a cohesive manner." Specifically, IT/O may be used in conjunction with Dazel Output Server to view common task administration functions; to receive event notifications about output management processes; to provide automated responses to correct stopped processes or other problems; and to conduct in-depth analysis or testing of Dazel-related functions.

"Dazel servers can be stopped or started under the HP console," reports Miller, "and the combination of IT/O and Dazel functionality can bring the enterprise to a new level of automation." His view is echoed by Olivier Helleboid, general manager of HP's Network and System Management Division, who observes, "The integration of HP OpenView and Dazel's Output Server increases the availability of output resources and provides our customers with a complete output management solution."

—Jon William Toigo, Contributing Author

```
corp:/acctg >ls general.ledger
UX:ls: ERROR: Cannot access general.ledger:
No such file or directory

corp:/acctg >ls payroll.1qtr
UX:ls: ERROR: Cannot access payroll.1qtr:
No such file or directory

corp:/mfg >ls inventory.cont
UX:ls: ERROR: Cannot access inventory.cont:
No such file or directory

corp:/mfg >ls order.entry
UX:ls: ERROR: Cannot access order.entry:
No such file or directory
```

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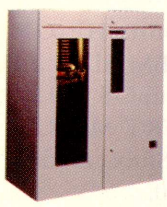

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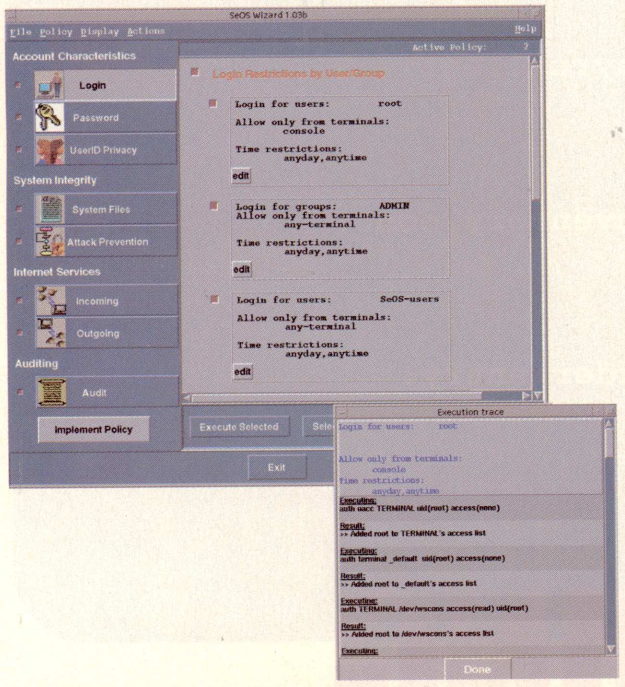
CIRCLE 408 ON READER CARD

A UNIX Server Safeguard



SEOS 2

- Features generic file protection, parameter tracing, restricted file access, trojan horse protection, device file protection, policy distribution filter and permission synchronization
- Supports HP-UX 9.x and 10.x, IBM AIX 3.2.5 and 4.1.x, SunOS 4.1.x, Solaris 2.x, AT&T MP-RAS and Siemens Sinix
- Price begins at $5,000

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CIRCLE 351 ON READER CARD

Data on UNIX servers is important for the success of organizations. With SeOS (Security for Open Systems) from Memco Software Inc. (New York, N.Y.), administrators can prevent security breaches, rather than waiting until they are discovered. New features of SeOS 2 include generic file protection, parameter tracing, restricted file access, trojan horse protection, device file protection, policy distribution filter and permission synchronization, as well as previous SeOS features like policy management, password controls and improved GUIs.

Based on SeOS 1.4, SeOS 2 offers new security capabilities. SeOS 2 consists of two products: SeOS Access Control and SeOS Security Administrator. SeOS Access Control contains generic file protection and wildcard options while SeOS Security Administrator contains the Security Wizard. With version 2, customers can have greater scalability and power. "Organizations are able to deploy security policies that protect many different resources with fewer and fewer commands," says Dorin Miller, vice president of marketing at Memco Software.

With SeOS' proactive security, organizations can prevent security violations from occurring instead of reacting to them after the fact. This can be done in real time. Administrators can actively track users with new keystroke and command parameter tracing options, which is important when users have been given extended security privileges.

The Security Wizard is a component within the Security Administrator that simplifies the creation of security policies by providing a GUI that comes with predefined templates of security policies. The templates guide the user on the types of resources they may choose to protect and gives advice as to what level of security they may choose to use, from very permissive to medium to very restrictive. Even a relatively inexperienced user can quickly create a comprehensive security policy.

Generic file protection simplifies the setting of access controls by applying a wildcard. "With a wildcard rule, you can reference a large number of files or any other entity on your computer system with a single command. So with generic file protection, you can apply a wildcard and protect all of the files that have any kind of name but have the same suffix.

"This allows an experienced security administrator to protect many different files. When setting up a security policy that says all configuration files for all sensitive applications must be protected, the security administrator can issue a single command and have his computer system adhere to this security policy," says Miller. With these options, administrators can create and maintain access rules across the network.

SeOS supports HP-UX 9.x and 10.x, IBM AIX 3.2.5 and 4.1.x, SunOS 4.1.x, Solaris 2.x, AT&T MP-RAS and Siemens Sinix. Pricing begins at $5,000.

—Rebekah Robertson, Contributing Author

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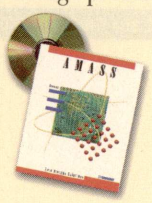

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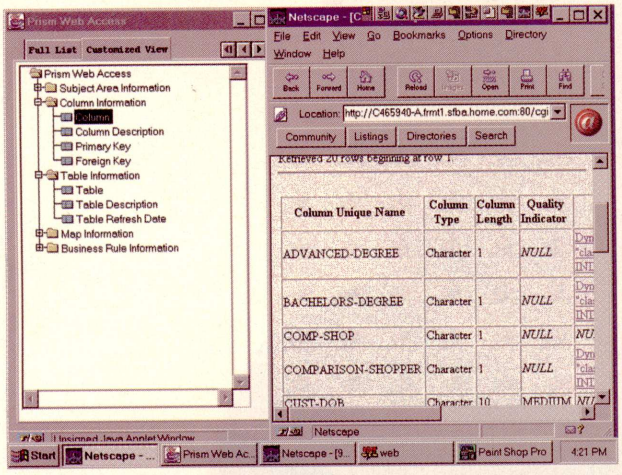
CIRCLE 296 ON READER CARD

A Warehouse Compass



WEB ACCESS

- Personal Mart Toolkit builds web-based views of data in relational databases
- Directory runs on Oracle, Sybase, Informix and DB2; requires Warehouse Directory 3.1
- Web Access with 5 concurrent seats is $2,500, each additional set of 5 seats is $1,500

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Sunnyvale, CA 94089
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www.prismsolutions.com

CIRCLE 354 ON READER CARD

Building on their Warehouse Directory software, Prism Solutions Inc. (Sunnyvale, Calif.) has unveiled Web Access, which uses the power of the Web to enable navigation and access of data warehouse information.

The software lets users view the Directory and understand the content and meaning of the data in the warehouse via the catalog or the card catalog in the Directory and then select particular tables, columns or rows that they are interested in. Users can then issue a query to the warehouse itself and bring the data back to their desktop for import into their desktop suites for analysis.

In addition, Prism offers its new Personal Mart Toolkit, which enables individuals to build Web-based views of data in relational databases to serve specific needs. The Toolkit gives users immediate and intuitive access to information, independent of development schedules.

According to Chris Hyrne, director of marketing with Prism, "Eighty percent of them said their needs were to have the ability to have end users, who now are far less skilled in the navigation of a database and data terminology, to have a user-friendly view of information in the warehouse, be able to navigate its contents and bring the data back to the tools that they generally use, which are not the high-end structured tool suites, but the Microsoft/Lotus types of technology."

Prism first used a modeling capability that gives the company and the customer the ability to model the views of the meta data and present those data elements in very user-friendly terms. Second, inherent in the information directory itself, is business terminology which reflects the content version of the information in the warehouse. That terminology is bound to technical meta data which describes the process the data went through to get into the warehouse — what source it came from, what transformations where applied and what is the view of the target warehouse itself.

"By linking this to the Web, customers take advantage of the infrastructure that is already out there so they can begin to deploy warehouse information out to a class of users that they previously had to buy special tools for," maintains Hyrne.

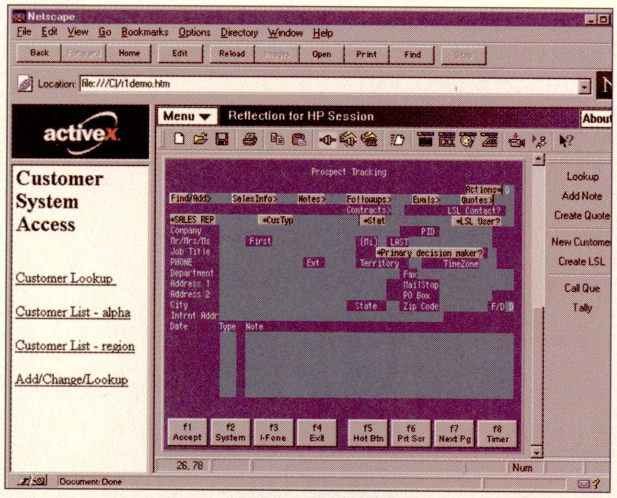
Third, is the ability to bring a new class of application: "If I have a short-term problem in my business and it appears the life of the project is short, say 90 days, in the past, it would take me that amount of a time to put the infrastructure up. If that application wasn't sustainable, it didn't make any sense to do it," concludes Hyrne.

The Prism Web Access module requires Warehouse Directory version 3.1, the Web Access Java applet on the client workstation and Windows NT 4.0 Intel-based Web Navigation Server. The Directory runs on Oracle, Sybase, Informix and DB2 and will support Web-based access on all those platforms.

The initial Web Access module includes five concurrent seats for $2,500 and each additional set of five seats is $1,500. The Personal Mart Toolkit will be licensed for $2,995.

— Matt Hengey,
Contributing Author

Reflecting Upon ActiveX



REFLECTION FOR HP 6.0

- Mouse Mapping gives instant access to commands and scripts
- Connection Wizard automatically determines correct connection and terminal settings so users need know only the name of the target host
- Single copy price is $399

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CIRCLE 352 ON READER CARD

For those keeping score: Reflection 1 is now Reflection for HP. And, WRQ (Seattle, Wash.) recently unveiled version 6.0 which provides HP host connectivity via a browser on Windows 95 and Windows NT desktops with Microsoft Active X technology. Active Document support, an extension of Active X, allows users to activate Reflection within the browser shell; host data can be accessed using the same browser as company documents, e-mail and the Web. This takes advantage of the quick navigation and common user interface of browsers such as Microsoft Internet Explorer or Netscape Navigator (using a customized version of the NCompass DocActive Active X plug-in).

"It might be a little bit more expensive then some other terminal emulation products that you might find, but it always works. And if there's ever an instance when it doesn't, WRQ makes it work," says Jayson T. Garrett, systems administrator with Mississippi College (Clinton, Miss.). "You wouldn't think that terminal emulation could go that far, but they've really taken it to great new levels." Mississippi College's computer center has been using Reflection to access HP 3000 and HP 9000 hosts for over five years. The reason? "I use it because it has a superior user interface and it has a wonderful Visual BASIC-compatible macro programming language with complete support for OLE automation," explains Garrett.

In addition to Active Document support, version 6.0 of Reflection for HP also introduces: Hot Spots, which allow IT managers to add graphical elements to host applications, without any programming; Mouse Mapping which gives instant access to commands and scripts, allowing host applications to interact with the mouse with familiar Windows left and right clicks, reducing training time; the Connection Wizard, which automatically determines correct connection and terminal settings so users only need to know the name of the target host, reducing helpdesk calls; and the Troubleshooting Toolbar, which streamlines the process of gathering information for diagnosis and treatment of desktop or network-related problems.

"IT managers give users instant access to enterprisewide data over the intranet by linking Reflection setting files to their Web pages, thereby leveraging the functionality of today's Windows 95 and Windows NT desktop," says Linda Merrick, marketing manager for Reflection products.

Other new features include: Wyse, Data General and ADDS terminal support; integrated ftp file transfers; customizable menus; multiple toolbars; TAPI support; and online help enhancements. "This is the perfect solution for customers who are interested in an easy way to integrate the type of host access they rely on today with a browser on Windows 95 and Windows NT desktops," notes Merrick.

A single copy of version 6.0 costs $399. Upgrades are available for $99.

—Matt Hengey,
Contributing Author

Access shouldn't be this difficult!

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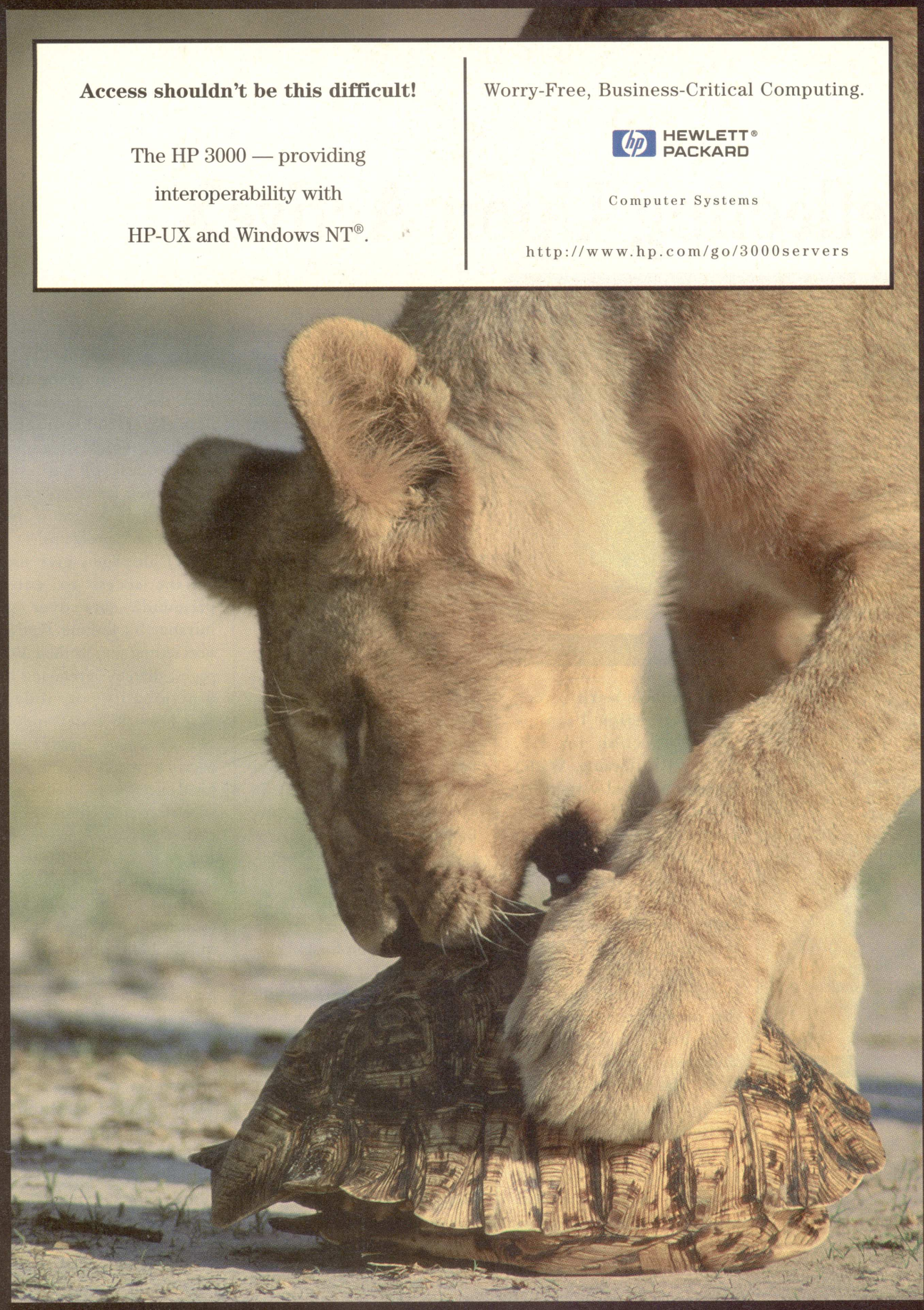

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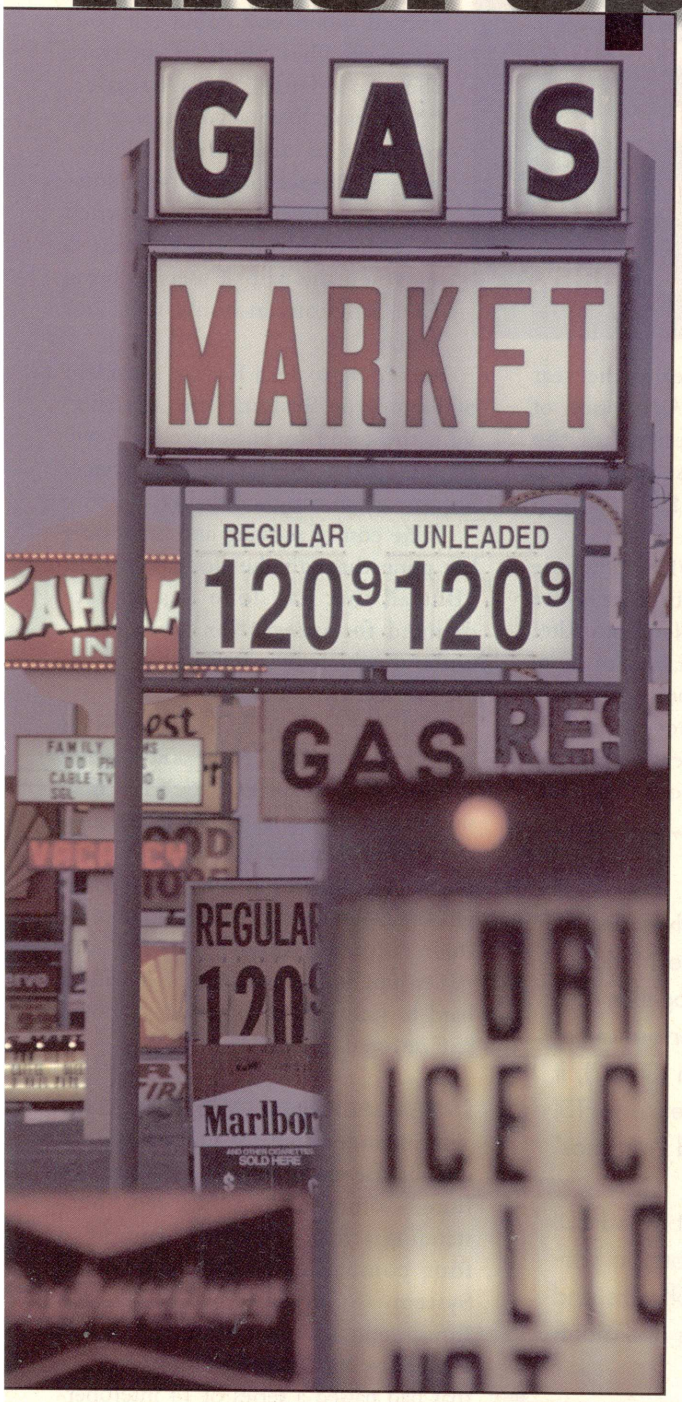
The Shops At Interoperability Place



Companies Of All Sizes Are Now Able To Conduct Business-To-Business Transactions As Well As Provide Purchasing Power Online.

Most of the sound and fury about Internet marketing is reserved for the business-to-consumer market. For example, in May, HP, Microsoft and VeriFone announced that they would collaborate on the Secure Electronic Transaction (SET) protocol standard. SET, origninally proposed by Visa and MasterCard, will help electronic merchants set up Internet storefronts, accept Internet payments and conduct SET transactions over the Web.

But behind the scenes, electronic commerce incorporates a whole set of processes not only in delivering goods from retailers to customers, but also in moving goods among manufacturers, suppliers and wholesalers. For about 20 years now, the technology used to manage this data has been known as Electronic Data Interchange (EDI), a set of transmission and data protocols used in the commercial world to send digital versions of invoices, purchase orders, bills of lading, labels, shipping manifests and other highly structured, transaction-oriented documents between businesses.

You Gotta Shop Around

EDI has been concentrated in larger companies, because small- and medium-sized businesses could not or would not invest the time, money and effort it took to create or lease the services of powerful, private value-added networks (VAN) to exchange commercial data using the ANSI X12 or the United Nation's EDI for Administration, Commerce and Trans-

Lane F. Cooper and James R. Dukart

portation (UN/EDIFACT) standards. "The introduction of new technology and distribution of EDI via the Internet will make EDI more accessible and easier to use for small- and medium-sized companies. Web-based EDI requires only a computer, an Internet connection and a browser," says Erina DuBois, industry analyst at Dataquest (San Jose, Calif.).

Or, as Mike Kennedy, vice president for information management strategies for The META Group (Stamford, Conn.), puts it, "with traditional EDI, I might have Wal-Mart, Kmart and Target as trading partners, but [the Internet] lets me work with many more players."

Dataquest predicts that the EDI market will more than double by the year 2000, from $937 million in 1996 to $1.9 billion in 2000. Dataquest analysts add that a large part of the growth of this market will be concentrated on smaller companies who, up to this point, could not afford extensive (and expensive) EDI VAN arrangements.

"Up to now, a large supplier would not deal with a company that did not provide their information via EDI, leaving small- and medium-sized businesses out of the loop."says Erica Rugullies, industry analyst with The GIGA Information Group (Cambridge, Mass.).

Forrester Research (Cambridge, Mass.) estimates that global consumers and businesses will order over $200 billion in goods and services in the year 2000, and the National Association of Purchasing Managers estimates the U.S. market for business-to-business purchases to be over $370 billion annually.

PREDICTIONS

Global consumers and businesses will order over $200 billion in goods and services in the year 2000.

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It also opens up EDI to a whole new set of issues. Stacey Bressler is vice president of CommerceNet (Palo Alto, Calif.), an industry association of more than 500 infotech companies. She calls the use of EDI over the Internet "a very large part of the electronic commerce puzzle," but cautions that traditional EDI vendors are operating in a new, open and possibly challenging environment now. Several companies, including traditional VAN-based EDI powerhouses like General Electric Information Services (GEIS; Rockville, Md.), Sterling Commerce (Dallas, Texas), Premenos Corp. (Concord, Calif.) and Harbinger (Atlanta, Ga.) are creating the opportunity to do EDI over the Internet. "You no longer have the artificial boundaries that existed when you could tell your partners what kinds of software they could use," says Bressler. "Now you have a whole new set of issues to deal with." Nevertheless, service providers or software developers who are worried that the Internet might cause a move on the part of users to bring EDI functions in-house need not worry.

According to Dan Kazzaz, president of PaperFree Systems Inc. (Fairfax, Va.), the trend to outsource EDI will continue even as products and services become more commodity-like.

"The cost of moving and processing has gone through the floor," he says. "But all that has done is stimulate demand for integration services — without which it is impossible to get the true benefits of EDI."

EDI, he continues, has and always will get increasingly easier and cheaper to outsource, unless EDI itself is a mission-critical function. "That is certainly the case with many electronic catalog, financial services and retail companies who will service a growing number of their customers online. But for auto dealerships and manufacturers, it will be hard to find large numbers of in-house staff devoted exclusively to EDI."

INTEROPERABILITY SHOPTALK

The interoperability of EDI software is one of the most important issues. In June, CommerceNet awarded "outstanding achievement" recognition to four companies — Actra Business Systems (Sunnyvale, Calif.), Digital Equipment Corp. (Maynard, Mass.), Premenos and Sterling Commerce — that had passed a series of 14 interoper-

NASA'S IMPULSE POWER BUYS

In an effort to comply with various federal government initiatives and to make agency processes and procedures more efficient, the National Aeronautic and Space Administration (NASA) is bringing together EDI and the Internet to reduce costs and improve purchasing performance. Under the agency's Scientific Engineering Workstation Program (SEWP), it has streamlined the purchasing of high tech products and services using TSI International's (Wilton, Conn.) Trading Partner PC software and Premenos' (Concord, Calif.) Templar security system.

The agency reports that it has demonstrated secure, Internet-based EDI transactions between and among NASA and NASA contractors, to purchase a wide range of UNIX and Windows NT hardware, software and services, including notebooks, supercomputers, technical studies and maintenance contracts.

ability tests with each other that included the successful exchange of certificates, signed messages, encrypted messages and signed receipts for EDI over the Internet. In addition to the four companies cited, Harbinger Corp. and Atlas Products International Ltd. (Manchester, United Kingdom) had achieved interoperability between each other and were expected to confirm interoperability with the other vendors soon.

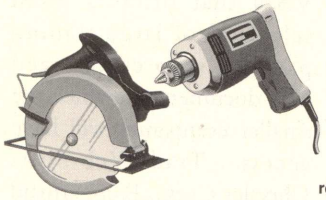
"Interoperability is the key concept," says Rick Drummond, chair of CommerceNet's Internet Engineering Task Force (IETF), the consultant who was in charge of the interoperability testing for the companies and president of The Drummond Group (Fort Worth, Texas), an electronic commerce consulting firm. "It's exactly analogous to interoperability between long distance telephone carriers," he adds. "Sprint and MCI and AT&T need to be able to talk to each other so that we can call across the country or world. These companies need to be able to interoperate so business documents can move."

Other issues brought up by Internet EDI include network reliability and security. By its very nature the Internet is much less secure and more prone to congestion and network reliability problems. While EDI VANs may be expensive to develop and deploy, their proprietary nature makes them more robust and secure — certainly more so than the Internet. Gene Frantz, product and marketing manager for GEIS' TradeWeb services, says this is one of the ways in which VANs continue to provide value-added service over Internet EDI. "The main thing about the Internet is the unpredictability of the connections," says Frantz. "In a VAN, most companies are using a direct dial-up. You are computer-to-computer, and you are not at the whim of someone's server. There are psychologies and physical increases in security through a VAN."

A Spree For All

Security, network reliability and interoperability concerns notwithstanding, traditional EDI vendors are rushing to fill the Internet EDI space with new services and products. Most of the big VAN EDI vendors refer to the emerging Internet EDI market as an opportunity to expand EDI beyond their existing markets without losing core VAN business. "When talk of Internet EDI first came out, it was supposed to be a big threat," says John Ford, market manager of emerging businesses at Sterling Commerce. "With the low-cost transport of the Internet, the need for EDI was supposed to dissipate. But what we have found is that the Internet and EDI really complement each other. Because of the less expensive transport mechanism, we can get EDI to even more people."

Ford says there are three major ways traditional EDI and the Internet intersect. One is to use the Internet to transport EDI-formatted documents



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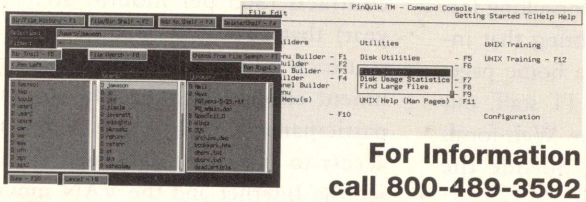

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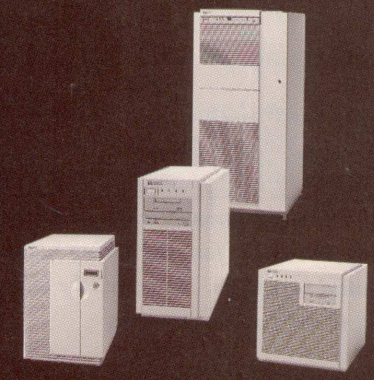

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from one organization to another. This lets you bypass VAN services altogether. Not surprisingly, Ford does not believe this to be the best solution. He says VANs provide a great deal of value-added services such as translation, consolidation of orders and verification procedures that are not available if you simply transmit over the Internet.

The second area Ford talks about is using the Internet to displace the requirement for a small or infrequent trading partner to have any EDI infrastructure at all on their side. There are a few ways to do this. One is through a software package such as Sterling's WebSuite, which lets a large, dominant supplier or customer (known in the EDI business as a "hub") parcel out its EDI forms and processes to selected suppliers. Sterling sells WebSuite to larger businesses who can afford the base price of around $20,000 per processor for the software. Smaller trading partners are given access to the software by the hubs, who benefit by increasing the number of EDI capable elements in their supply chains — thus reducing the need to support redundant paper-based systems.

Another company that produces software to create EDI documents on Web pages is Actra Business Systems, a joint venture between GEIS and Netscape Communications Corp. (Mountain View, Calif.). Actra markets a suite of software products called the CrossCommerce platform, aimed at helping large- and medium-sized companies produce an EDI transaction area on their Web sites. Using a product called ECXpert, for instance, companies are able to set up their own customized EDI forms rather than placing documents in a VAN for distribution.

Lincoln Yarbrough, product marketing manager for ECXpert Systems, says the product is all about giving companies greater control over the generation and customization of EDI forms and processes. "A company's Web site is becoming the method of choice for communicating with customers and suppliers," says Yarbrough. "When you go to a VAN, you are essentially taking control out of the customer's hands and asking an EDI vendor to create your customized forms for you. If you want to change something later, you might have to wait until they can do it, and you will be charged their consulting fees for it. ECXpert lets you bring that in-house. You already have a home page, and you already have an IT staff, our software lets you create the Web forms for EDI without going outside the enterprise."

ECXpert is currently shipping on Sun Solaris and is expected to be available on Windows NT by fall 1997. Pricing starts at $25,000 for a single processor without a database, and $30,000 with a database. The product appears to take aim most directly at the larger VAN clients of big EDI companies. "What I see right now are older EDI providers scrambling to add Internet connectivity, scrambling to add browser interfaces, kind of bolting the Internet onto their VANs," says Yarbrough, who came to Actra from one of those "older EDI providers" with his 12 years' experience at GEIS. "But we are presenting a new opportunity, to create your own EDI structure outside of the VAN."

A VAN For Some Reasons

Finally, companies can do EDI over the Internet by participating in a subscription service — paying a fee in order to participate in a VAN and then using Internet browsers and transmission to complete their EDI transactions. For instance, this is represented by GEIS' TradeWeb service. With the TradeWeb concept, many smaller companies who cannot afford an EDI infrastructure will participate in a VAN that offers a good selection of large trading partners who customized EDI documents to which the smaller companies will have access. TradeWeb lists Chrysler Corp., Rubbermaid Worldwide and many other large multinational corporations as hub hosts.

The cost of TradeWeb participation varies according to a company's outgoing monthly volume. Companies can pay as they go at $6 per document. Or, they can sign monthly or yearly contracts ($65 per month, $650 per year) that allow 30 documents to be sent each month with a $1.50 per document charge after that. In all cases, participants have free and unlimited access to incoming documents. "We see the Internet and the VAN moving hand in hand through these implementations," says GEIS' Frantz. "We have solutions on our VANs and we have

Four Revenue Types Dominate EDI Market
(in millions)

	1997	2001	Growth Rate
Transactions (VAN, direct, Internet)	$1,263	$2,419	18%
Software (purchase, upgrade, integrate)	$1,312	$2,348	16%
Consulting (internal, external)	$257	$495	18%
Hardware/Fixed Cost	$626	$1,162	20%
Total	**$3,457**	**$6,424**	**17%**

Source: The EDI Group Ltd. (Oak Park, Ill.)

The combined EDI market growth will be 17 percent through 2001 in the United States and Canada. Already among the fastest growing industries for EDI VANs are financial services and petroleum/chemical industries. However, the largest dollar expenditures will come from retail stores, government and business services.

solutions on the Internet. By having a full-featured complement of these technologies, we solve all the problems."

James Davis, president of Harbinger Corp., agrees that the future of EDI appears to be one of mixing and matching VAN and Internet solutions to meet the particular needs of a company or companies. He says companies want to be able to pick and choose when they trust the Internet to send EDI documents and when they want the added security and reliability of a VAN. Neither one will cancel out the other, according to Davis.

"What we see are hub trading partners that are happy with their existing EDI infrastructure, but who want to complement it with Internet capabilities to add trading partners or reduce their costs," Davis says. "The Internet is a natural complement, but you have to let the user choose which way they want to do it."

"The future of EDI is a mixed bag," concludes CommerceNet's Bressler. "But it's very much like business in general. Rarely is there ever only one best way to do business, just as there is no one best way to do EDI."

— Lane F. Cooper and James R. Dukart are with the Washington News Bureau.

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Companies Mentioned

Actra Business Systems
www.actracorp.com
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Atlas Products Int'l. Ltd.
www.apiltd.co.uk
CIRCLE 343 ON READER CARD

CommerceNet
www.commerce.net
CIRCLE 342 ON READER CARD

Digital Equipment Corp.
www.digital.com/edi
CIRCLE 341 ON READER CARD

The Drummond Group
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General Electric Information Systems (GEIS)
www.geis.com
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Harbinger Corp.
www.harbinger.com
CIRCLE 338 ON READER CARD

Hewlett-Packard
www.hp.com/retail
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Netscape Communications Corp.
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PaperFree Systems Inc.
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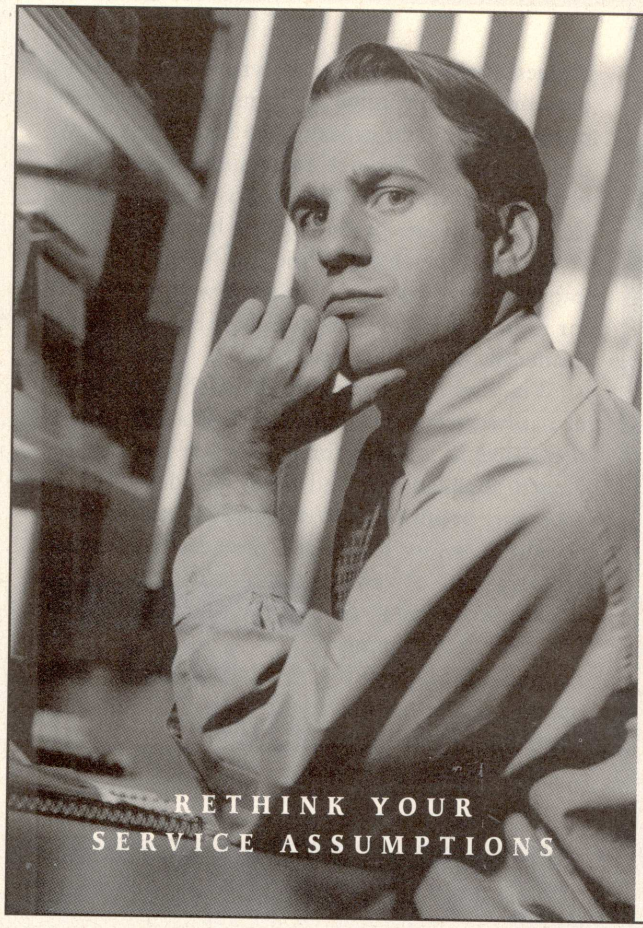

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Windows Shopping

A Look At Integrating UNIX And Windows NT In Business-To-Business E-Commerce

Electronic commerce covers a wide range of activities such as electronic data interchange (EDI), electronic payment systems and order management. It also includes linking solutions in business-to-business and business-to-consumer applications, as well as information delivery and product support/service. Businesses of all kinds and sizes are using e-commerce to improve the quality and timeliness of information exchange, increase productivity, enhance data accuracy, reduce costs, promote trading partner loyalty and facilitate just-in-time inventory management.

The information these business partners exchange is generated by various departments both inside and outside of the enterprise. As you might expect, these departments have developed a preference for a single computing platform. UNIX, the operating system of choice for large Web sites, is the reigning Internet king.

On the other hand, Windows NT is trying to knock that crown loose. UNIX is well recognized for its security and manageability, but it is more technically demanding than NT.

Windows NT, less costly than UNIX in terms of hardware and maintenance, has tacitly gained acceptance as a server for workgroup and departmental applications. And now, Windows NT is becoming popular as a Web development platform because it is easy to use and provides the familiar appearance of the Windows interface. A few months ago, using a 64-bit Windows NT operating system, the Microsoft Sphinx SQL

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Server (scheduled for release in mid 1998) and application software that also isn't available yet, Microsoft gave a demonstration designed to show that Windows NT is capable of scaling up from file and print services to database services. While NT's scalability is currently seriously questioned, it is improving. And, other issues such as reliability and security are being addressed.

In 1997, 14% of all PC EDI software installations are still using DOS, but this is finally expected to decline to less than 1% of all PC users by 2001, starting with a 50% drop in DOS users in 1997 to 1998. UNIX and Windows NT are hot, and their growth in installations among business users is expected to grow 40% and 70% per year, respectively.

SOURCE: EDI GROUP LTD. (OAK PARK, ILL.)

Still, it's doubtful that NT will replace UNIX, even after the higher-performance NT solutions are released for general distribution. According to International Data Corp. (IDC; Framingham, Mass.), UNIX has 80 percent of the enterprise server market and will continue to have an annual growth rate of 20 percent for the next several years. Besides, organizations hang on to their legacy systems. And tier one ISPs, the organizations that host multimillion-hit Web sites and provide other ISPs with direct connectivity to the Internet backbone, are also not anxious to risk the security and reliability of their services to make the switch from UNIX to NT for their backbones.

Choose Or Lose?

At the same time, the leading providers recognize that forcing customers to standardize on a single operating system is impractical and counter-productive. Both platforms have their own set of features and benefits. And most IS managers want the opportunity to mix and match solutions based on the task at hand. If you think you'll be adding mixed platform e-commerce activities to your Web site in the future, make certain that your ISP offers fully integrated *UNIX and NT* services, not just UNIX *or* NT services.

Network and database managers as well as engineers prefer the flexibility and scalability of UNIX's conditional processing commands. However, marketing, sales and human resource departments want the familiar GUIs that Windows provides. As a result, in a recent survey of large companies conducted by Forrester Research Inc. (Cambridge, Mass.), 76 percent of the IT managers surveyed said that they will continue to buy both UNIX and NT well into the future. *Only 24 percent plan to standardize on NT.*

A growing number of businesses and Web site developers are showing a preference for Windows NT for site development, enhancement and updates, but still want the security of having their content delivered from UNIX-based systems. Many companies have already gone beyond simply publishing marketing and sales information on their Web site, and have re-engineered their business processes so they can be tightly integrated into an online solution. These organizations want to combine applications such as catalogs that have been developed on an NT platform with UNIX-based databases for handling online transaction capture and analysis.

This combination takes advantage of UNIX's superiority for very large projects and NT's ease-of-use features. Of course, every time you add another environment, you add another layer of complexity. The easiest and most cost-effective way to handle the interoperability issues is to find an ISP that offers a fully integrated UNIX/NT solution. One that is transparent to the user, but does not sacrifice security, availability or performance. A few tier one providers offer services designed to leverage the best features of both operating systems.

A solution that is integrated at the physical, network and system levels can tie the application server and database server tightly together over high-speed links for maximum performance. It also provides organizations with the flexibility of bringing additional machines and resources online without having to change any content. Keep in mind that when new e-commerce capabilities are added to the system, more throughput and capacity is required. Fast, reliable access and security are two compelling reasons for outsourcing the hosting of your Web sites with a major ISP that offers direct connection to the Internet and a fault-tolerant infrastructure.

Business As Usual

Because of security, e-commerce sites are usually located outside of a company's own network at a highly reliable Web hosting facility. The secure commerce servers used by these facilities encrypt and authenticate transactions and messages sent over the Internet. This makes it easy to work interactively with a large number of constantly changing vendors, distributors, channel partners and customers.

In addition to offering secure, multiplatform support without the associated hardware, software or maintenance costs, a few ISPs are using distributed file systems and intelligent load balancing to optimize the performance and availability of their customers' Web sites. The new service options, which are available for UNIX, NT and mixed

UNIX/NT platforms, use three primary distribution technologies: replication and local caching are used to improve site availability and speed delivery; and intelligent load balancing is used to match server capacity with demand where requests are transparently routed to the nearest, most responsive servers.

With this type of fault-tolerant global content delivery infrastructure in place, Web site access requests can be transparently re-routed among geographically dispersed Web servers to balance site traffic loads and ensure that there is virtually no point of failure. It's business as usual, even when the server is down for maintenance.

Products that perform one or more of these tasks include: IBM/Transarc's Distributed File System (DFS) for Windows, OS/2, UNIX and IBM mainframe platforms; Microsoft's Distributed COM for Windows NT 4.0 environments; and Sun's Network File System (NFS) for UNIX and PC systems. All of these applications are readily available, however, it's more cost-effective and less time-consuming to simply select an ISP that provides and maintains them.

Using What You Learn

With links to electronic purchase orders, organizations can reduce the processing time involved in invoicing. In addition, these links can be used to provide delivery schedules and gather valuable sales/usage data to improve marketing efforts and customer relationships. When businesses provide visitors with fast, reliable access to their site, it becomes a valuable tool for lowering the cost of doing business. For the price of a local phone call, Web-based e-commerce capabilities allow business partners around the globe to process purchase orders electronically, saving an estimated 80 percent over manual processes. Lower costs translate into higher profit margins.

In spite of the benefits e-commerce provides, most organizations are cautious about integrating the full range of capabilities all at once. Developing a plan and implementing the various commerce applications in stages gives users the opportunity to master one capability before another is added. The model for a successful business-to-business e-commerce plan includes more than schedules for implementing applications that allow customers, vendors and business partners to access vast amounts of current information and process transactions much faster than ever before. How that information is going to be captured and delivered should also be part of the plan.

—Pushpendra Mohta is vice president of TCG CERFnet Inc. (San Diego, Calif.), an Internet and Web services provider.

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IN sites

Case Study Solutions

Not A Paneful Assembly

Viracon Builds A Better Environment With SynQuest's Optimized Planning, Synchronized Management And Engineered Automation Software.

Deborah Schwartz

Viracon (Owatonna, Minn.), a division of Apogee Enterprises Inc., commands more than half of the high-performance fabricated architectural glass market. Typically, Viracon supplies glass to glazing contractors who build non-residential construction. The company's products have been used to construct well-known buildings around the world including the Rock and Roll Hall of Fame and Museum (Cleveland, Ohio), the Opryland Hotel (Nashville, Tenn.), the Hong Kong Convention Center and the Petronas Towers in Kuala Lumpur, which is currently the tallest building in the world.

Viracon supplies glass to contractors who build non-residential construction, such as the Opryland Hotel in Nashville, Tennessee.

By necessity, Viracon operates in a fluid production environment where delivery dates are constantly shifting. For example, bad weather on a site frequently can stall building construction and the need for delivery by two weeks. On the other hand, contractors may ask to move up delivery if construction is proceeding more quickly than expected. To improve responsiveness, Viracon recently awarded a $1.7 million contract for software and services to SynQuest Inc. (Norcross, Ga.). Viracon will use SynQuest Optimized Planning, Synchronized Manufacturing and Engineered Automation products to aggressively grow its current business and break into a new market. The SynQuest system will help Viracon synchronize activities, at the same time improving productivity and increasing visibility and control in this dynamic manufacturing environment.

Viracon is currently implementing SynQuest software in its Owatonna, Minn. plant, which employs 1,200 and produces more than 25 million square feet of glass annually. Viracon is running two HP 9000 K420s each with two processors and 128MB ECC memory. The HP 9000s share 12 2.1GB hard drives. The SynQuest environment is an Oracle7 database running on the

HP systems. The dual systems are set up for high availability with mirrored disks, redundant power supplies, UPSs, MC ServiceGuard and OmniBack Backup Manager. The connection to the LAN is through a Novell network with 300 nodes and a 100BaseT network card.

ACHIEVING SYNCHRONICITY

Since 1970, Viracon has expanded its facilities to perform more glass fabricating processes at a single site than any other fabricator in the world. Its state-of-the-art tempered, laminated, insulating, security, silk-screened, privacy and high-performance coated glass products provide customers with the choices they need from one single source. This single-source capability is evident in the company's complete line of product offerings, technical expertise, design assistance and responsive customer support. And, Viracon's experienced field sales representatives, technical support, inside sales representatives and production personnel continually strive to deliver glass to its customers, 100 percent complete and on time.

With SynQuest software, Viracon expects to increase its production capacity up to 25 percent without adding additional labor. Increased labor productivity is critical because of a labor shortage in the region. "Currently, demand for high performance fabricated glass exceeds our production capacity," says Brad J. Austin, vice president and general manager at Viracon. "We selected SynQuest to help us more effectively synchronize our production resources, which will help us stay ahead of demand and the competition.

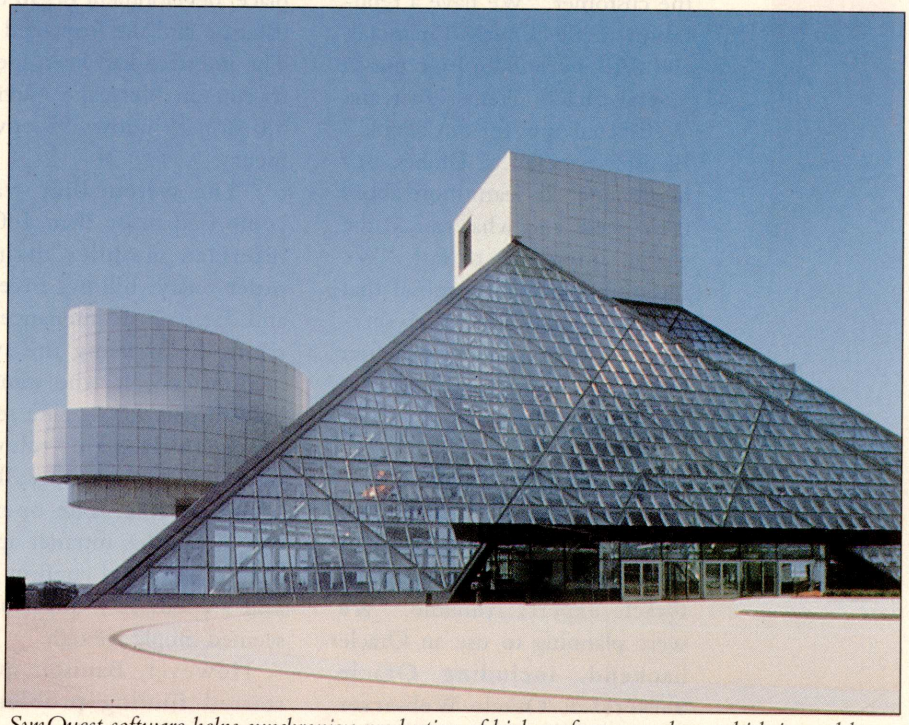
"Our company is looking to SynQuest to help us create a flow-type environment, where increased visibility and production synchronization will help us keep things moving and reduce work-in-process," adds Austin. Just increasing production capacity to meet demand in current markets won't allow Viracon to meet its overall corporate growth objectives. The company is targeting an aggressive growth by the turn of the century. To meet this goal, Viracon will use SynQuest's suite of products to help them enter a new market — the medium-performance fabricated glass market — with its high-performance fabricated glass products. Viracon's success in this new market is contingent on its ability to become more agile and responsive to short-interval customer demand and demand changes.

The SynQuest environment is an Oracle7 database running two HP 9000 K420s connected to a Novell LAN with 300 nodes and a 100BaseT network card.

"To expand into the medium-performance market, Viracon must shorten time-to-market and improve customer responsiveness," says Austin. "SynQuest will provide our company with the capability to model and optimize the manufacturing operation and reduce the time it takes to fulfill orders and respond to customer order changes."

Even with the increased production volume that the medium-performance market will require, Viracon needs to continue the company's history of "shipping customer orders complete and on time." Late or partial product shipments are unacceptable for contractors operating under tight construction deadlines. "We're counting on SynQuest to allow us to continue to accurately commit to our customers' want dates," continues Austin. "This will be a significant achievement considering our plan for accelerated growth between now and the year 2005."

SynQuest can be reached at 3500 Parkway Ln., Ste. 555, Norcross, GA 30092; (800) 844-3228; www.synquest.com.



SynQuest software helps synchronize production of high-performance glass, which is used by customers like the Rock and Roll Hall of Fame in Cleveland, Ohio.

IN sites

Case Study Solutions

A Link To The Network Stars

Sesame Software Delivers A Web-Based Order Entry System To GlobeCast.

Jon William Toigo

When GlobeCast (formerly Keystone Communications; Los Angeles, Calif.), a subsidiary of France Telecom, contacted systems developer/integrator, Sesame Software (Scotts Valley, Calif.), they had already fired one integrator who hadn't been able to deliver what they wanted. Their need was for a Web-based order entry system that would handle the booking of satellite feeds for national television.

Rick Banister, president of Sesame Software, says his company's experience in developing and deploying successful client-server and Web-based systems garnered his firm a contact from the customer, "We have a reputation in the Oracle Financials and SAP world. We have put in several Oracle client-server and Web-based apps for our clients." Banister traveled to GlobeCast's headquarters to learn more about their needs and what caused the earlier integrator to fail. "We responded with a proposal that used an Oracle-based Web server and a custom-developed user interface. It took about two weeks to get the nod."

THE MISSING LINK - FOUND

The first step in fielding the solution to the LINK project was to assemble the best team of Oracle experts available. "We were planning to use an Oracle backend, including Oracle Server 7.3, Oracle Webserver 2.01 and Oracle Reports 2.5."Sesame prefers Oracle Webserver because it provides "an extremely flexible PL/SQL programming environment using the full capabilities of the Web to incorporate multimedia or traditional user interfaces into business applications."

With the core server software identified, Banister's team found the existing host underpowered, "The customer had a single-processor HP 9000 D-class system that was really under capacity for what they wanted our app to do. We recommended that they upgrade to a four-processor HP NetServer LX Pro, with four 166MHz Pentium Pro processors and a 16GB RAID 5 array." Once the consulting team and hardware were in place, development began on the database and the front-end GUI. The interface had been specified to run on Netscape Navigator 3.0 in a Windows 95 environment.

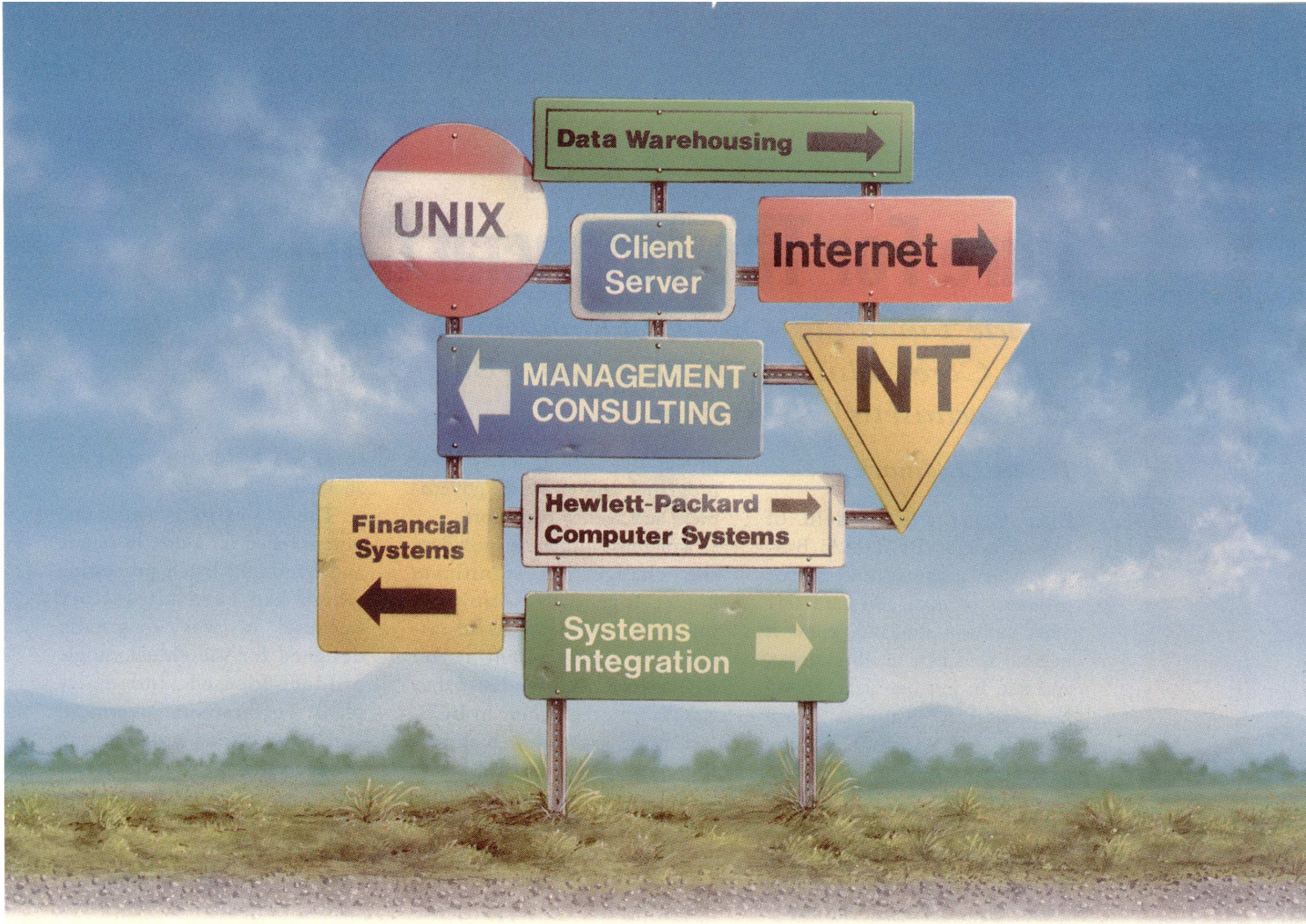
"The system they wanted comprised more than 100 user interface modules including order entry, billing, inventory and database maintenance. The scenario for using the system held that people who wanted to book orders for satellite services — primarily major television networks — would call customer service. The operators would use this intranet application to enter and confirm orders and answer any questions. It seemed simple enough."

However, Banister quickly started finding problems in HTML. "Things like controlling visuals, managing the CGI environment (an HTML scripting environment), even the need to escape all text fields and get rid of all real characters like square brackets. We had to develop an entirely new methodology for user interface development using ordinary HTML with JavaScript.

"LINK had a real research and development component in that we created tools for JavaScript and HTML development that are dynamic and useful for other Web-based applications," says Bannister. Components of the toolkit include a security package for enhancing standard security in Oracle and Windows NT for use in Web-based applications, a job scheduler and print spooler, and several shell programming utilities that compensate for lackluster capabilities available within Windows NT Server.

Development of the order entry system took about one year, including 140 screens supporting 30 to 35 ports. "The application is strictly internal intranet for now," Banister observes, "but [GlobeCast] may want to open it up to direct access by external customers in the future." Banister says he is toying with the idea of productizing these tools, but realizes that they give his firm a competitive advantage in Web-based development for the time being.

Sesame Software can be reached at P.O. Box 67118, Scotts Valley, CA 95067; (408) 438-5072; info@sesame.com; www.sesame.com.



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CIRCLE 416 ON READER CARD

IN sites

Case Study Solutions

Cure For The Financial Cold

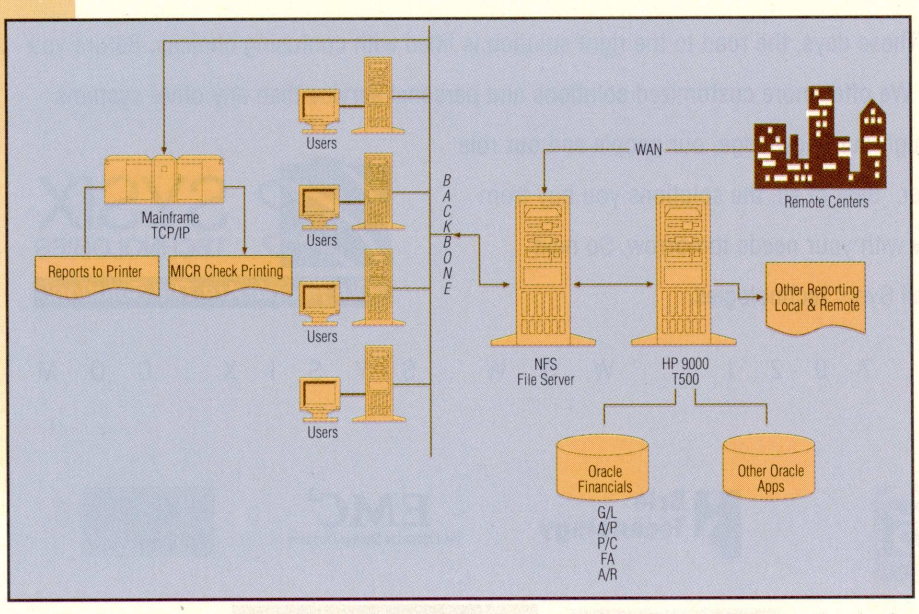
Oracle Financials On HP Hardware Becomes The Core Solution Of Blue Cross Blue Shield Of Massachusetts' IS System.

Kevin Lindmark

Blue Cross Blue Shield of Massachusetts (BCBSMA; Boston, Mass.), the second largest provider of managed care services in New England, knew it needed to adapt its IS systems, and fast. In just one year, HMO membership jumped from 800,000 to 936,000. In the healthcare industry, individual and single product insurance plans are falling out of favor among consumers who are increasingly attracted to the greater plan flexibility and lower costs of HMOs or managed care plans. The trend is requiring major insurers to adapt their information systems to perform increasingly complex business procedures that underlay these programs, and to satisfy government and agency regulators.

For most insurance providers, the change has significant impact. It generally means moving from mainframe-based systems to a new client-server architecture. And the faster they can do this, the better. In BCBSMA's case, the new membership already accounted for over half the company's total membership base. With nine offices in Massachusetts serving 18,000 national, regional and local businesses, the need to support managers with increasing responsibilities was causing concern for IS teams fearing financial managers would be falling behind on their financials. Overall quality of service would ultimately be affected.

The pre-existing mainframe system relied on a mix of offline and overnight batch processing which had been satisfactory because it was originally designed for individual, single product-focused indemnity plans. Furthermore, overnight batch and offline processes ran independently of each other. However, trying to integrate the needs of the new HMO product lines into the old batch system, like capitation and other physician arrangements, made the financial process nearly impossible. The books were closed each month, but sometimes the process seemed dependent on extra hours of attention and sometimes a little luck.



BCBSMA's addition of an open, client-server platform and applications to the network solved potential problems of programs not mapping together because the financial system is now based on a single core of Oracle software products.

RECALCULATING THE ODDS & ENDS

BCBSMA recently redefined the financial systems that support its new business focus and transitioned to an HP 9000 Model T500 server running a suite of Oracle financial applications. In the process, the company took advantage of business process reengineering to foster a new mindset among financial managers and analysts. The IS team looked at each element of the monthly closing process and asked: Is it necessary? Does it have analytical value? How can we streamline? The study revealed necessary changes that would provide a bigger and better perspective of finances for managers than was previously

allowed with the monthly number crunching. By redefining the financial system, managers are able to ask questions such as: What do the numbers tell us? How can we use them to make decisions for a better corporate future? These are questions the new system can answer.

The goal was to create a financial system that would let financial managers close quickly — within minutes instead of days to do reporting and business analysis. BCBSMA wanted to create a financial system that automated the collection of data and presented information in a format that financial managers and analysts could easily analyze and use to make solid business decisions. Given the company's recent growth history and projections for the next one to two years, the scalability of the server platform and database systems was also a critical consideration of the new system.

To meet these goals, the BCBSMA IS team's process of discovery and researching also established new criteria for software and hardware, plus a stringent testing phase before beginning department-by-department deployments to more than 130 users. To replace the mainframes and mix of financial applications, BCBSMA's financial management team selected Oracle Financials which include Oracle General Ledger, Oracle Purchasing, Oracle Assets, Oracle Payables and Oracle Receivables. Additionally, they considered integrating a pre-existing and internally-developed cost accounting system that was also based on an Oracle database, while providing those system users with a new set of accounting and analyzing tools.

The application choices were placed on an HP 9000 Model T500, now with four processors for running instances of production, development, testing and training. Normally, 73 of the 4,600 employees access the new system each day, with as many as 30 to 40 users accessing it at the same time. With the old system, only a few people had access to online information. Nevertheless, they're finding the T500 is easily handling this large flow of information. The combination of platform and applications met one of the main goals for the system — to avoid the problem of several programs not mapping together — because the system was now based on a single core software product.

The transition to an HP 9000 T500 running Oracle Financials fostered a new mindset among financial managers and analysts.

LEAN ON ME

The initial plan provided 12 to 13 months for implementation, but BCBSMA was able to shorten this to just nine months companywide; early results and few problems justified IS and user confidence. The insurance industry is highly regulated internally and externally. Requirements change all the time. For example, for one of their regulatory agencies, BCBSMA relies on the new system to capture and add additional information that will categorize balance sheet items as assets and liabilities. Users can now do this for themselves, instead of involving the IT staff to interact with the system. The system also tracks membership automatically, as well as revenue and expense lines.

The end result is a much leaner process. The change eliminates a number of unnecessary offline processes. One result was to reduce a cumbersome, paper-intensive purchasing and payables process, and to create, in its place, an integrated and streamlined workflow. BCBSMA's monthly close process, which is customarily thought of as just the number-crunching, also includes analysis of the data. For example, the financial system can include reports and synopses on each product line.

The CFO and board of directors can look at a report and get answers to their questions from the sales of an individual product line to trends within customer claims. Financial managers and analysts can, on an ad hoc basis, get information from the system, examine claim trends that were different than expected, or look at rate/volumes that were higher or lower than predicted. And, what they learn is much more readily shared around the company through OLAP tools and a report writer that accompany the Oracle Financials.

While reliability and outstanding performance remain key criteria for the server (this is an enterprise critical system that also uses disk mirroring), the T500 also mapped to BCBSMA's requirements for processor expandability. Additional Oracle applications, databases and data warehousing are planned and will rely on the multiprocessor architecture and scalability by adding processors as systems grow. The IS team uses benchmarking of new applications to predict additional CPU and memory needs. They've also established other gauges and measures to let them know when it is time to add processors or memory.

You can look at the overall financial system from several sides and see success. First, BCBSMA closes the books faster each month. With more usable, real-time data online, company leaders are able to make business decisions more effectively. The open architecture of hardware and software is also more flexible in equipping the IS team to react and re-adapt the system to market and regulatory changes as well as the company's own growth.

It's also important to show the improvement on overhead costs. By investing in process re-engineering and then transitioning the financial system to an open, client-server environment, BCBSMA reduced financial management costs significantly. Follow-up studies and assessments show that closing cycle costs have also been cut, which alone might have justified the new technology investments.

Fred Mallett

Performance Misperceptions

Measuring performance is rather subjective. There so are many different ways to test every

measure of performance.

How about if we use a comparison test based on racing one-quarter mile in gasoline powered vehicles? Seems pretty straightforward. I have a souped up 1963 Chevy II with $8,000 worth of motor under the hood producing 400 horse power. It can run one-quarter mile in 9.2 seconds. You have a big yellow bus with a 400 horse power motor. With the gas pedal to the floor and a load full of shoppers and tourists, it takes 35 seconds to cover the same distance. So, which is faster, the bus or the Chevy II?

If the goal was to move one person one-quarter mile, the Chevy won. If the goal was to move many people, the bus won. With 60 people aboard, that was 0.58 seconds per person per one-quarter mile. Certainly the bus did more work.

The example shows the difference between system and perceived performance. For the person in the car, the impression of performance was very high. The people in the bus felt the system was slow, although the bus did six times as much work for every second of the race. The point: users get unhappy with perceived performance, while they often don't care about total system throughput. They only care how long it takes to get their job done.

Fifteen years ago, everyone wanted to put a CPU on every desk. In the last few years, this urge has been reversed. And we are now seeing more centralized systems. In addition, we'll see a renewed need for understanding and tuning performance. The car and bus analogy relates rather well to the testing and tuning performance of computers. If you want to do as much work as possible for as many users, tune the system to act like the bus. However, there are times when large, single task applications must be completed as quickly as possible, and total throughput of many jobs is not a concern. Of course, your concerns are not this clear cut.

HOOKED ON A FEELING

Perceived performance is the "seat-of-the-pants feel" of how fast the system is responding. If you hit the number **1** key and wait three seconds for a **1** to appear on the screen, the system is perceived as slow. If during that three seconds, the system handled 10,000 network transactions, computed and sent 2,000 real-time updates of complex 3D images to X stations and put 20GB on the backup crystals, system performance or total throughput must have been very high.

Total system performance is determined by how the available system resources are applied to the tasks to be performed. System resources consist of the CPUs, memory, disk and network I/O systems, and the OS which controls how all these resources are accessed. As an example of what we mean by tuning, lets look at two systems:

System A is used to serve Web documents to the rest of the company. It needs to perform many disk accesses, at "random," over the thousands of documents. Think of this as a transaction processing machine.

System B is used to perform large scale IC design layout. It runs long compute- and data-intensive jobs that manipulate many megabytes of data.

For now, let's just look as how you might want to configure the disks containing the data for these systems. For *System A*, it would be best to have small disk blocks configured into the file system. This would minimize waste and allow the best throughput of files, because we will be accessing many different small files. We only have to read what we need.

On *System B*, much larger disk blocks are indicated, because we will be needing large amounts of data. And the larger the blocks, the less transactions needed to get all the data we need. This simple change might make a noticeable difference (depending, of course, on the rest of the system configuration).

The question that begs to be asked here: "What if both tasks are being performed by the same system?" Well, as far as disk data blocks, this means we should keep the Web documents on a different file system than the IC data. This will allow us to configure the block size to be optimal for each type of data. If we were to take into account the OS tuning that might optimize for either system, we are rather stuck; tuning for one purpose would be detrimental to the other. Which is why I cheated and only talked about disk block sizes.

This should lead you to realize that sorting data into properly configured

disks, as well as grouping programmatic tasks to similarly OS-configured hosts is an often overlooked "network level" performance tuning method. We might even consider grouping users into "perception level" requirements, and assigning them to hosts accordingly.

THE ART OF SYSTEM TUNING

On any given system we have finite-sized piles of resources. This much memory. That much CPU power. And this many I/O channels at a particular speed. There is some amount of tuning you can perform to adjust these "piles" of resources into the optimal (or average) need of the computing being done. There is a point however, where one resource or another will be in short supply. Here is where the art of system tuning comes in — in other words, "making the resources you have perform the most work in the shortest time."

Another less artful, but often more effective method, is to buy more of the resource in short supply — more memory or an upgraded CPU. The difficult part is determining which resource is causing the slowdown. Are you disk bound? Is your system thrashing due to lack of memory? Or, are all other resources are in plentiful supply but the CPU is just too slow? In many cases, people buy more of the wrong resource, and get little or no performance increase.

So, the following are the major tasks to determine in performance tuning:

- Is there is a performance problem?
- Which resource is in low supply?
- Should you optimize the use of that resource (if possible)?
- Or, should you buy more of that resource?

But remember, if you needed a bus and bought a car, no amount of tuning will help.

This month, we addressed some high level aspects of performance. In future columns, we'll get down to nuts-and-bolts commands and measurements.

—Fred was last seen heading out to his car with a "For Sale" sign. Send your performance tuning tips to frederm@famece.com.

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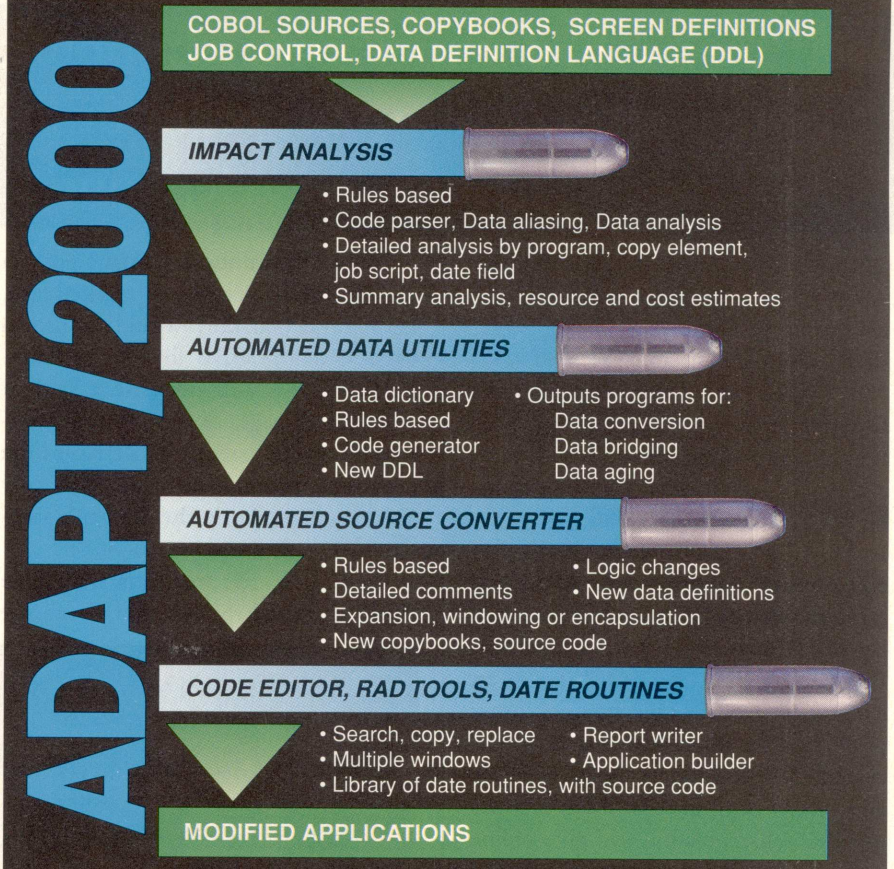

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CIRCLE 145 ON READER CARD

Mark McFadden

The BBB On The WWW

After a bad experience shopping for a television, a neighbor of mine reached for the telephone

and called the Better Business Bureau. Angered by a salesman who couldn't deliver on promises made in the store, she looked me in the eye and said, "See, this is why I don't shop on the Internet; there's no consumer protection for the shopper."

HP MUST HAVE BEEN LISTENING

In May, HP lent its prestige, and a certain amount of money, to a new online service called BBBOnLine. Developed by the Council of Better Business Bureaus (BBB), BBBOnLine is an attempt to provide objective consumer protection for Internet shoppers. If successful, BBBOnLine would provide the Internet commerce industry some overdue self-regulation and give online customers an independent authority to turn to when online commerce goes awry.

The Better Business Bureau has more than 80 years of experience in protecting consumers from unethical business practices. Funded almost entirely from member businesses, the Bureau provides reports on the practices of both members and non-members. Every member business is automatically entered into the Bureau's database and non-members are entered when consumer complaints warrant. When shopping for large purchases, it makes sense to check with the BBB; their reports are usually free and based on reliable information.

With HP making a dramatic push in the electronic commerce marketplace, it's natural that they would sponsor a version of the BBB for the Internet. BBBOnLine will provide a seal of approval on pages of participating companies. Participating in BBBOnLine requires a promise from the company that it will abide by the Bureau's standards for commerce.

In return, the business will have their ownership and performance record verified by the traditional BBB system. Participating companies will then be licensed to display an encrypted BBBOnLine logo at their site.

BBBOnLine is an attempt to provide objective consumer protection for Internet shoppers.

In fact, the standards for online vendors is pegged higher than for traditional storefront businesses. When an Internet shopper finds a merchant online that displays the BBBOnLine logo, they can click the image to link directly to the Better Business Bureau Web site. From there, the consumer can link to a reliability report on the merchant. The logo can be withdrawn immediately if the vendor fails to act upon consumer complaints.

While the reliability report provides useful information about the complaints lodged against the online vendor, the real power lies in using the information to see how a vendor responds to problems. The number of complaints against an online vendor can be misleading if not combined with information on how the firm dealt with those complaints.

REGULATE THYSELF

Another key to the success of electronic commerce is self-regulation of the marketplace. While the Federal Trade Commission (FTC) has an important role in the development of electronic commerce, it is actively encouraging businesses to take responsibility for creating a trustworthy online marketplace.

According to FTC Commissioner Christine Varney, "the government doesn't need to regulate when we have corporate citizens who are acting responsibly and who are supporting the Better Business Bureau in its effort to enable consumers to make good choices and to provide recourse when the choices haven't been so good." BBBOnLine is just one example of the industry attempting to provide checks and balances for itself.

Avoiding well-intentioned, but often inflexible, government control and regulation of commerce has resulted in the formation of several industry coalitions that develop and endorse voluntary content labeling on the

Internet. With almost a million online users under the age of 18 in North America, the focus of voluntary efforts has been on protection of the public, and especially children, from inappropriate content.

The most famous of these efforts, the Recreational Software Advisory Council (RSAC), is a content-based advisory system directed at interactive

Being able to get a reliability report on the online vendor is a needed service if commerce on the Internet is to fulfill its promise.

and gaming software. The new effort of BBBOnLine distinguishes itself by providing a rating system for the underlying business rather than the content being delivered.

That's an enormous advantage to the online consumer. Of course not every online business will choose to join the BBBOnLine system. However, without trust and independent arbiters of business behavior, it's unlikely that my neighbor, upset enough with vendors face-to-face, will turn to the Internet for transactions. Being able to get a reliability report on the online vendor — including complaint information, time in business and marketplace behavior — is a needed service if commerce on the Internet is to fulfill its promise.

If HP's new partnership with VeriFone is to be successful, consumers will need more than fancy technology; they must trust the new breed of merchants as well. No wonder HP joined the effort as a founding sponsor.

—Lodge your complaints about Internet commerce with Mark at 73740.1101@compuserve.com.

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Muse Technologies Debuts Collaborative Software

Muse Technologies Inc. debuted Continuum, a collaborative system for science, industry, education and entertainment. Continuum allows multiple users to work together from different geographic locations in shared, real-time, multimedia and multisensory environments over networks. The new software creates personal and private workspaces for every participant in a group environment and permits each user to freely work with their own data and tools — either by themselves or in teams of any size.

Contact Muse Technologies Inc., 1601 Randolph SE, Ste. 210, Albuquerque, NM 87106; (800) 711-3899; info@musetech.com; www.musetech.com.

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CA Announces Unicenter Integration

Computer Associates International Inc. (CA) announced that CA's Unicenter TNG has been fully integrated with Compaq Computer Corp.'s Insight Manager software. The integration enables organizations to manage their Compaq servers and workstations as an integral component of their end-to-end enterprise management solution.

Contact CA, One Computer Associates Plaza, Islandia, NY 11788; (516) 342-5224; info@cai.com; www.cai.com.

Circle 399 on reader card

Dispatch 2.0 Features NT Compatibility

Resonate Inc. announced Resonate Dispatch 2.0, adding support for Windows NT.

Resonate's Java-based Dispatch improves Internet and intranet site performance and availability, meeting the DSM needs of Web publishers, Web hosters, ISPs, high-traffic Web sites, electronic commerce sites and corporate intranet applications.

Resonate Dispatch 2.0 is available on Pentium and Pentium Pro servers running Windows NT 4.0 and on Sun SPARC-servers running Solaris 2.5 or 2.5.1. Dispatch also includes support for Resonate's new site management tool, Resonate InSite. Dispatch does not require dedicated hardware, is compatible with all Web server software, and supports any TCP-based protocol including http, ftp, SSL and telnet. Prices start at $7,995 for a two-node server license.

Contact Resonate, 465 Fairchild Dr., Ste. 224, Mountain View, CA 94040; (415) 967-6500; info@resonateinc.com; www.resonateinc.com.

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Informix Partners With NEON

Informix Software and New Era of Networks Inc. (NEON) announced a partnership to enable applications built on Informix databases to be integrated with other packaged and legacy applications throughout the enterprise.

NEONet and Informix provide a scalable, flexible platform for the rapid and efficient deployment and management of application integration across a network.

NEONet 3.1 and Informix integration is available immediately from NEON. NEONet will initially support Informix-OnLine Dynamic Server.

Contact Informix Software, 4100 Bohannon Dr., Menlo Park, CA 94025; (415) 926-6300; www.informix.com.

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Black & White Releases CORBA 2.0

Black & White Software announced Orb/Enable 2.2, a productivity toolset that simplifies CORBA application development with Orbix, a CORBA-compliant object request broker from IONA Technologies. Orb/Enable allows the software developer to visually browse, manipulate and manage CORBA information, eliminating much of the need-to-know and remember coded interfaces. Release 2.2 features C++ and Java code generation from compiled IDL descriptions, graphical viewing of CORBA interface repository contents, native Windows and UNIX support, automatic deployment of servers and numerous ease-of-use enhancements

Orb/Enable 2.2 is available for Windows NT, Windows 95 and UNIX platforms. Per user pricing starts at $1,500 on UNIX, and $995 on Windows.

Contact Black & White Software, 1901 S. Bascom Ave., Ste. 700, Campbell, CA 95008; (408) 369-7400; info@blackwhite.com; www.blackwhite.com.

Circle 396 on reader card

Edge Announces N-Vision For HP OpenView

Edge Technologies Inc. announced N-Vision, a Java "front-end" for the HP OpenView network management platform. Using N-Vision and a Web browser, network managers can access OpenView information across your intranet or via remote dial-in. The N-Vision component set includes a Graphical Topology Display, SNMP MIB Browser, OpenView Event Browser and Administration Utilities, giving network managers greater access to information.

Contact Edge Technologies Inc., 10201 Lee Hwy., Ste. 540, Fairfax, VA 22030; (703)691-7900; sales@edge-technologies.com; www.edge-technologies.com.

Circle 395 on reader card

Lawson, Informix Package Server

Lawson Software and Informix Software Inc. announced an agreement to package Informix-OnLine Dynamic Server into the Lawson Insight software application process suites. The new combined package extends Lawson's Web and object-based capabilities via Informix Universal Server.

Lawson Insight provides four fully-integrated process suites that support and facilitate the cross-functional execution of business processes: financials, human resources, procurement and supply chain management. Five components, integrated across all Lawson Insight process suites, comprise the foundation

of the business management system. All Lawson products are Year 2000 certified.

Contact Lawson Software, 1300 Godward St., Minneapolis, MN 55413; (800) 477-1357; www.lawson.com.

Circle 394 on reader card

Xing Releases StreamWorks 3.0

Xing Technology Inc. released StreamWorks 3.0, an audio and video broadcast software. Broadcasting full-motion, full-screen video, StreamWorks 3.0 takes advantage of the MPEG 1 standard designed especially to scale to enterprise network bit rates (ISDN and above), beyond the capabilities of the proprietary Web-specific solutions and the high-end MPEG 2 applications.

StreamWorks 3.0 also leverages other industry standards such as MMX and Microsoft's DirectX architecture.

StreamWorks is priced at about $60 per seat for a 50-seat solution. All the components needed to encode and broadcast MPEG files are included. Xing's MPEG Live! Encoder for producing live broadcasts is an additional $4,000. An Internet server gateway is available as an option to allow enterprise networks to make content available to the Web. The StreamWorks 3.0 Server is available for Window NT 4.0, Linux and Alpha NT.

Contact Xing Technology Corp., 810 Fiero Ln., San Luis Obispo, CA 93401; (805) 783-0400; www.xingtech.com.

Circle 393 on reader card

SolutionSoft Announces Year 2000 Solutions

SolutionSoft Systems Inc. announced Time Machine (TM) and Time & Space Manager (TSM), two solutions for the HP 3000 that assist in software development, testing, training and operation, and which are particularly useful for Year 2000 conversion, testing and certification.

TM allows an application to "travel through time" by returning a specified date or time whenever the application gets the system time. Because the system clock is not actually changed, only applications with which TM is used are affected.

TM is a bundled component of SolutionSoft's TSM package, which also includes SolutionSoft's CSM.

Contact SolutionSoft Systems Inc., 2350 Mission College Blvd., Ste. 715, Santa Clara, CA 95054; (888) 884-7337; info@solution-soft.com; www.solution-soft.com.

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Siemens Nixdorf Integrates ARCIS With PeopleSoft

Siemens Nixdorf introduced a paperless personnel management system that integrates paper documents seamlessly and securely into human resources applications. The solution combines the ARCIS electronic archiving system from Siemens Nixdorf with PeopleSoft HRMS (Human Resources Management System).

The solution was developed using the Siemens Nixdorf workflow automation tool SmartAssist to link ARCIS and PeopleSoft HRMS. SmartAssist integrates standard software for Windows, Windows 95 and Windows NT, combining activities within separate applications into processes which can be executed automatically.

Contact Siemens Nixdorf, 200 Wheeler Rd., Burlington, MA 01803; (617) 273-0480; www.sni-usa.com.

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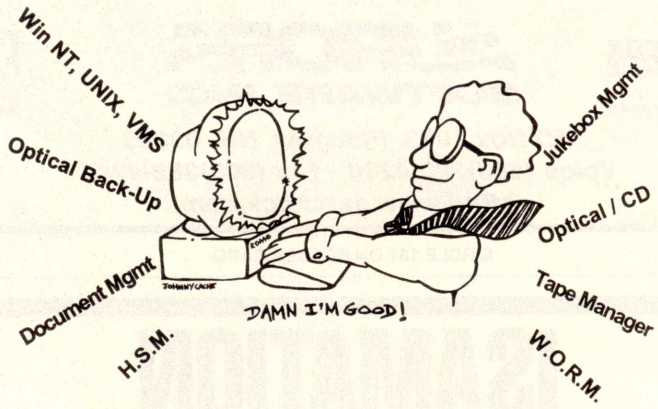

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Competitive Automation Offers JOIN DHCP For NT

Competitive Automation Inc. announced a Windows NT Server version of its JOIN DHCP address management product.

JOIN DHCP for NT manages IP addressing in heterogeneous networks with machines running different operating systems and hardware platforms. The JOIN DHCP server provides a single point of control for the configuration and management of all DHCP and BootP clients.

It is now available for HP-UX 9 and 10, Solaris 2, Solaris x86, SunOS, Digital UNIX and VMS. Per server price is not yet determined. JOIN DHCP for UNIX costs $1,700 per server, for up to 600 IP addresses (nodes).

Contact Competitive Automation, 1050 University Dr., Ste. 210, Menlo Park, CA 94025; (415) 321-4006; info@join.com; www.join.com.

Circle 390 on reader card

NetIQ Enhances NetIQ AppManager Suite

NetIQ Corp. enhanced NetIQ AppManager Suite to include management of Windows NT Server, Enterprise Edition (Windows NT Server/E).

The NetIQ AppManager Suite includes integrated "AppManager" components that are designed to monitor Windows NT-based systems and Microsoft BackOffice servers such as Microsoft Exchange Server, Microsoft SQL Server, Systems Management Server and Internet Information Server. With this announcement, NetIQ released AppManager components to manage the enhanced features of Windows NT Server/E (Microsoft Cluster Server, Microsoft Message Queue Server and Microsoft Transaction Server) and updated the existing AppManager for Windows NT to support enhancements made to the underlying operating system by Windows NT Server/E.

Contact NetIQ Corp., 275 Saratoga Ave., Ste. 260, Santa Clara, CA 95050; (408) 556-0888; info@netiq.com; www.netiq.com.

Circle 389 on reader card

DataChannel Delivers ChannelManager

DataChannel announced the availability of ChannelManager Preview Release 2. The ChannelManager solution gives the ability to manage Web channels, external news feeds, PC applications and legacy corporate data, distributing these diverse sources to customizable employee and customer desktops.

ChannelManager allows IS administrators and Web masters to reorganize complex corporate intranet Web sites, managing all sources within one database and selectively distribute content in real-time to employee and department desktops. It also provides a unified desktop framework for uniting disparate internal viewers.

The Preview Release 2 works with Windows NT 3.51/4.0 and the Oracle 7.0 and SQL Server databases. Support for UNIX and other ODBC-compliant databases will be available by the end of 1997.

Contact DataChannel, 10020 Main St., Ste. 205, Bellevue, WA 98004;
(425) 462-1999;
information@datachannel.com;
www.datachannel.com.

Circle 388 on reader card

Whisper Technology Offers Whisper Programmer Studio

Whisper Technology announced Whisper Programmer Studio, an integrated visual development environment for UNIX and MPE programmers.

Features include: a full-featured editor, including context-sensitive coloring, unlim-

New From HP

JetAdmin Software — HP announced JetAdmin for Windows NT and Windows 95 (Version 2.4), JetAdmin for IBM OS/2 Warp and JetAdmin for UNIX systems which make it easier to install, configure, monitor and manage peripherals remotely attached to a network.

These versions offer enhanced automatic device discovery, improved TCP/IP support for easy IP address locating and simplified auto-driver downloading. All of these versions support the TCP/IP protocol and the additional advanced features found in current and future HP printers.

JetAdmin supports Windows 95, Windows NT, Windows 3.x, Novell NetWare, OS/2 Warp and UNIX systems. HP also offers printer management software for Microsoft LAN Manager, Windows for Workgroups and Macintosh.

HP Enterprise Link — HP announced the availability of its HP Enterprise Link middleware product on the Windows NT 4.0 operating system. Customers can now use HP Enterprise Link on HP-UX servers or on servers based on Intel microprocessors and the Windows NT operating system to unify plant manufacturing systems and the SAP R/3 business system.

It is a certified software framework that integrates enterprise resource planning systems with real-time manufacturing systems from leading control vendors. Its main elements are a graphical tool and a run-time data server. The configuration tool lets users define data mapping and specify where and when to move data. This configuration drives the data server, which directs data flow in response to real-time events.

Price is $3,000 for the configuration tool and data server. The communication object for SAP's PP-PI module is $28,000.

For more information, contact your local HP sales office or call (800) 533-1333.

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Whisper Programmer Studio is priced on a per user basis, with an introductory single user price of $599.

Contact Whisper Technology Ltd., 25-29 High St., Leatherhead, Surrey KT22 8AB United Kingdom; (888) 465-8145; info@whispertech.com; www.whispertech.com.

Circle 387 on reader card

DIT's TransferPro Available For UNIX

Digital Instrumentation Technology Inc. (DIT) announced TransferPro for UNIX. This version enables users to read and write Macintosh formatted media directly from their UNIX workstation at SCSI speeds.

TransferPro for UNIX is compatible with the leading Appleshare file server systems such as Helios EtherShare, IPT-u-Share Partner and Xinet K-AShare. It also conforms to the AppleSingle and AppleDouble file formats used by the Macintosh Application Environment.

TransferPro for UNIX is available for HP-UX 9.x and 10.2; SGI Irix 4.x, 5.x and 6.x; Data General DG/UX Motorola and Intel; IBM AIX for RS/6000; Sun SPARC Solaris 1.x and 2.x; Digital UNIX; and Apple network Server AIX. TransferPro also is available for Windows 3.x, Windows 95 and Windows NT. Prices for a single user license begin at $449.

Contact DIT, 127 Eastgate Dr., #20500, Los Alamos, NM 87544; (800) 467-1459; tpro_request@dit.com; www.dit.com.

Circle 385 on reader card

Allegiant Releases ADAPT/2000 For NT

Allegiant Legacy Solutions announced the availability of ADAPT/2000 Release 2.1 for Windows NT, a 32-bit version of its Year 2000 toolset for multiple COBOL dialects. Allegiant also announced the addition of a user interface analyzer, which tracks the occurrences of date impacted fields from COBOL programs to and from user interfaces such as IBM's CICS BMS screen maps.

ADAPT/2000 can assist in the remediation of COBOL code from a diverse range of platforms, including IBM, Unisys, NCR and Bull mainframes, Digital VMS/OpenVMS, HP 3000, AS/400, Wang/VS, Data General MV Series and most open systems COBOL dialects. Pricing for a complete ADAPT/2000 system begins at $20,000.

Contact Allegiant Legacy Solutions, 11025 Reed Hartman Hwy., Cincinnati, OH 45242; (888) 972-5257; www.allgnt.com.

Circle 378 on reader card

Envive Inspector Maximizes R/3 Performance

Envive Corp. announced Envive Inspector for R/3, a service-level management solution for SAP R/3 to provide total performance and availability assurance with real-time root-cause diagnosis, resolution recommendations, predictive analysis and service-level reports. Inspector's GUI has been written entirely in Java, allowing the R/3 management team the flexibility to access the system from anywhere in the world. R/3 specialists can view system problems from different locations and collaborate for faster problem resolution.

Pricing begins at $40,000 and is based on the size of the R/3 installation. The Inspector Service-Level Statements system is sold separately and starts at $15,000.

Contact Envive Corp., 5150 El Camino Real, Ste. B-31, Los Altos, CA 94022; (888) 2ENVIVE; info@envive.com; www.envive.com.

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Imagery Studios Announces Volumes+

Imagery Studios announced Volumes+. With Volumes+, users can create and view multimedia "volumes" — a collection of "pages," similar to a book or album. Each page can have a picture/video file and a sound file associated with it. Each volume supports up to 99 pages of images in 16 different picture formats, as well as .WAV and .MIDI sound files and .AVI movies.

Pictures are available as thumbnail images and also can be viewed in a full screen mode with page navigation controls. In addition, all pages can be presented in a complete multimedia slide show with the click of a button. Bookmarks provide a way to assign labels to your favorite pages so you can locate them quick and easily.

Contact Imagery Studios Inc., 1561 S. Congress Ave., Ste. 210, Delray Beach, FL 33445; (561) 274-0799; imagery@emi.net; www.capecod.net/imagery.

Circle 375 on reader card

Radnet Ships WebShare Mobile 2.1

Radnet Inc. announced WebShare Mobile 2.1 software, which enables users to replicate their Web-based collaborative applications from their network to their personal laptops. WebShare 2.1 includes WebShare Mobile and updated versions of WebShare Server and WebShare Designer.

WebShare Mobile offers full bi-directional data replication from a connected WebShare server to a disconnected PC running Mobile. This allows a Mobile laptop user to "selectively replicate" the data pertinent to them from the network application server down to their personal laptop for disconnected usage. When they reconnect to the network, they can easily replicate/back-up any new information they created while offline to the network application server. WebShare provides the conflict management to ensure that information from one mobile user is not over-written by another.

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includes a copy of WebShare Server for Windows NT, is $3,995. Price of the WebShare Mobile option, for existing installations of WebShare Server, is $1,295. WebShare Server for Windows NT-Standard Edition and WebShare Designer are available for $2,995 and $995, respectively.

Contact Radnet, 58 Charles St., Cambridge, MA 02141; (888) 723-6381; www.radnet.com.

Circle 374 on reader card

HARDWARE

M-Systems Releases DiskOnChip 2000-EVB

M-Systems released the DiskOnChip 2000-EVB, an ISA card with a socket for DiskOnChip 2000 which enables the system designer to evaluate, program and test the DiskOnChip 2000.

The DiskOnChip 2000 is a 32-pin DIP single chip bootable Flash Disk that provides full hard disk compatibility, high performance, cost effectiveness and reliability for embedded systems and applications with limited space and modest disk capacity requirements. The DiskOnChip is offered in capacities of 2MB to 72MB, with future models having capacities of 144MB and up.

The DiskOnChip 2000-EVB kit includes an ISA card, utilities disk and product manual. The EVB kit is priced at $50.

Contact M-Systems, 39899 Balentine Dr., Ste. 335, Newark, CA 94560; (510) 413-5950; info@ccm.msyscal.com; www.m-sys.com.

Circle 384 on reader card

CAC Adds To DesignStation Line

Computer Applications Co. (CAC) added a new series to the DesignStation line of computer systems.

The CAC DesignStation Ultra N2200 features a 200MHz Pentium processor with MMX technology, 256K pipeline burst cache, 32MB of RAM, a 2.1GB hard drive and a cellular-ready U.S. Robotics 33.6K fax modem. An 11-speed CD-ROM drive and 12.1-inch Active Matrix screen are standard. It is available for $3,495.

Contact Computer Applications Co., 3020 Giant Rd., Ste. 250, San Pablo, CA 94806; (510) 412-9908; cacsales@cacdirect.com; www.cacdirect.com.

Circle 383 on reader card

ATL Introduces P1000 Series

ATL Products Inc. introduced the P1000 series of DLT libraries that includes: an embedded PCI expansion bus that will support high-speed Fibre Channel host adapters, Ethernet network adapters and PCI single-board computers; not-swap DLT drives; touch screen GUI with Internet browser look and feel; and Java-based WebAdmin Internet library administration software available with initial shipments of P1000 libraries.

The P1000 series consists of 12 models ranging from one DLT 4000 drive and 16 cartridges, to four DLT 7000 drives and 30 cartridges. Each model is rackmount, shelf mount or deskside configured. Price starts at $25,000.

Contact ATL, 2801 Kelvin Ave., Irvine, CA 92614; (714) 774-6900; atlpsales@atlp.com; www.atlp.com.

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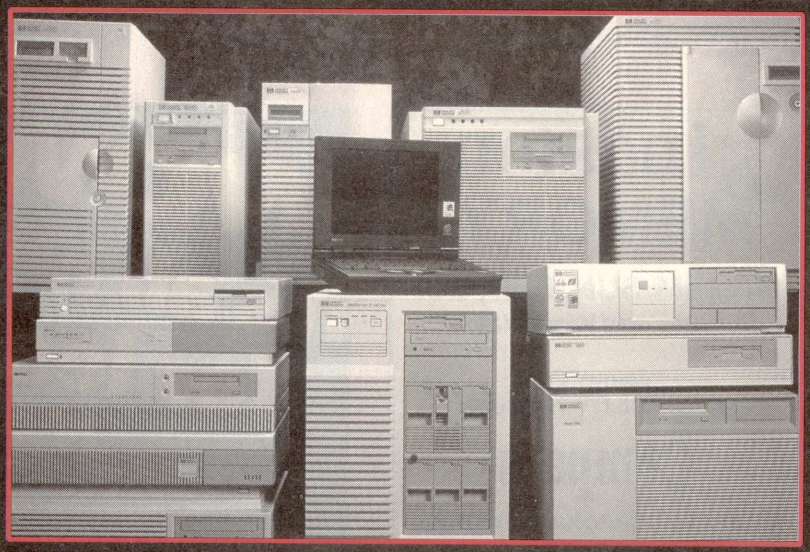

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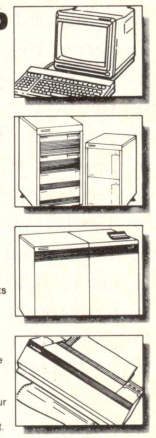

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SUR-E-TY (shoor'e-ti), n. 1. sureness; certainty. 2. security against loss or damage. 3. one who makes himself responsible for another syn. assurance, commitment, bond, earnest, guarantee, pledge, security.

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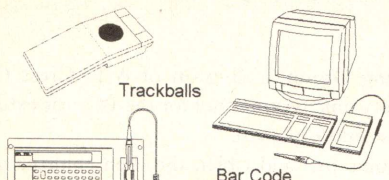

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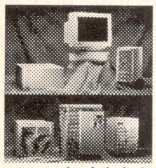

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new products

Cross PCG Unveils iPen

The Cross Pen Computing Group, a division of A.T. Cross Co., introduced the iPen, an electronic writing tool for the PC that extends the capabilities of the mouse and keyboard.

Consisting of an electronic pen and tablet, the iPen connects to a standard nine-pin COM port and runs under Windows 95. Functioning in much the same manner as a mouse, the iPen can move the cursor and activate all Windows 95 functions. It also is an ideal tool for accessing the writing, annotation and drawing capabilities that exist in many of today's applications. The iPen even uses a special elastometric tablet surface and synthetic ruby pen tip to provide users with a patented "pen on paper" feel.

The iPen is priced at $149.99. The iPen with Symantec WinFax PRO is priced at $199.99, while the iPen with Cross Handwriting Software Suite is priced at $249.99.

Contact Cross Pen Computing Group, 1 Albion Rd., Lincoln, RI 02865; (800) 282-7677; www.cross-pcg.com.

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Imperial Announces MegaRam-4000

Imperial Technology announced the MegaRam-4000, which features an internal 100MBps bandwidth to service up to six independent Ultra SCSI ports, each capable of transferring data at up to 40MBps. It can be configured with storage capacities from 268MB to more than 4GB. It is available in a tabletop enclosure or a 19-inch rackmount configuration. The MegaRam-4000 is priced from $25,000.

Contact Imperial Technology Inc., 2305 Utah Ave., El Segundo, CA 90245; (800) 451-0666; itmarketing@imperialtech.com; www.imperialtech.com.

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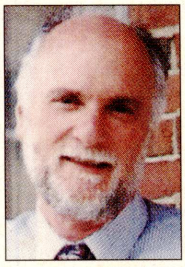
The Secret Is Out: Train To Gain



Jim Cooper
President
Teletutor

A company's greatest asset walks out the door at the end of every day.

Until recently, good employees were all too often taken for granted. Increasingly, training and human resource managers are re-evaluating how to handle the labor shortage and are becoming more proactive. Companies are beefing up training budgets to provide skills that their workers need. It's far cheaper to train the employees you have, than to hire outside contractors.

Companies need people who understand the technology behind the products they manufacture, sell or support. And long-term education is seen as the secret to remaining competitive in the future. That's why companies are implementing training as an employee knowledge enhancement rather than mere preparation to perform a specific job task.

I'm in the training business myself, so naturally I'm excited about this shift. But, I have seen first-hand how widening the scope of training helps employees do their jobs better and helps customers make better use of high tech products.

When I was training manager at a growing communications manufacturer in the 1980s, I wanted most of all to train customers on how to install, configure and maintain our company's equipment. But when people came without a basic understanding of the technology of a product, their time and that of my instructors was far less effective than what it could have been.

Some students needed to learn the basics before they even entered a class. Additionally, some needed reinforcement of that learning after the onsite training. And increasingly, as their jobs intersected with many more technologies, they needed as many methods as possible to learn quickly and efficiently.

In 1985, it was clear that networked PCs would proliferate in the business world. It also gave us a great method for delivering crucial fundamental technology training. Companies now have a higher degree of flexibility; this year, for example, we created an ftp site for HP in Colorado Springs so its worldwide employee base could access our library of networking technology courses. Another unit within HP in Mountain View put some of our courses on its intranet.

In the 1980s, it was the advent and growth of the personal computer. In the 1990s, the Internet is driving how employees will learn in the next century. In today's business environment, the need is for Web-deliverable, cost-effective training that is available at all hours and that addresses all of a company's educational needs, including specific technologies, vendor application, soft skills and management training.

In May, our company merged with UOL Publishing Inc., which has allowed us to offer customers a Virtual Campus (VCampus) that can answer most of a company's training needs with Web-based training across the enterprise. With a VCampus, all employees can instantly receive training on over 300 subjects without having to leave the office. And more importantly, training and education can become an ongoing part of the corporate culture.

Lifelong education is perhaps the Internet's most promising application. For the corporation, the virtual campus can put every employee on the "same page," and put crucial "gotta to have it now" knowledge a few mouse clicks away. For the individual, it fosters not only continuous development, but good employees are no longer taken for granted.

—Jim Cooper is president of Teletutor (Portsmouth, N.H.), a provider of interactive training on networking technologies. Gain his attention at cooper@teletutor.com.

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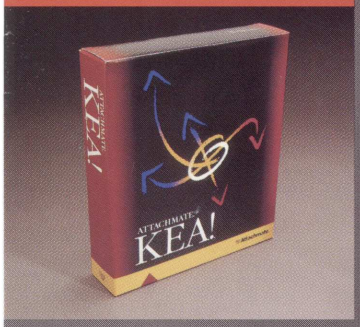

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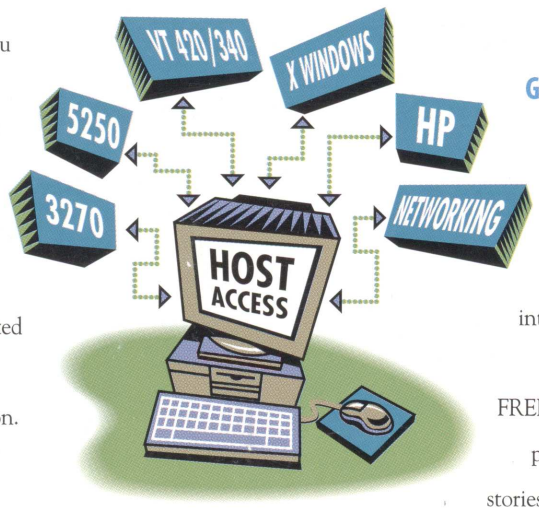

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